

2003 4th QUARTER GROUNDWATER MONITORING REPORT

FOR


**FORMER ANGELES CHEMICAL
COMPANY FACILITY
8915 SORENSEN AVENUE
SANTA FE SPRINGS, CALIFORNIA**

COPY

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February 10, 2004

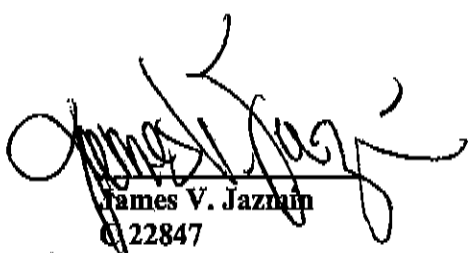

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1.0) INTRODUCTION

Blakely Environmental Investigations, Inc. (BEII) was contracted by Greve Financial Services ((310) 753-5770) to perform quarterly groundwater monitoring at the former Angeles Chemical Company (ACC), Inc. facility located at 8915 Sorensen Avenue, Santa Fe Springs, California (See Figure 1, Site Location Map). The quarterly groundwater monitoring was requested by the Department of Toxic Substances Control (DTSC) correspondence dated September 18, 2001. This report presents the results of the 2003 3rd quarter monitoring episode performed from December 9 through 11, and 15 of 2003.

2.0) SITE LOCATION AND HISTORY

The site is approximately 1.8 acres in size and completely fenced. The site is bound by Sorensen Avenue on the east, Air Liquide Corporation to the north and northwest, Plastall Metals Corporation to the north, and a Southern Pacific Railroad easement and McKesson Chemical Company to the south.

The property was owned by Southern Pacific Transportation Company and was not developed until 1976.

The ACC has operated as a chemical repackaging facility since 1976. A total of thirty-four (34) underground storage tanks (USTs) existed beneath the site. Two (2) USTs, one gasoline and one diesel, and sixteen (16) chemical USTs were excavated and removed under the oversight of the Santa Fe Springs Fire Department. All 16 remaining chemical USTs were decommissioned in place and slurry filled.

In January 1990, SCS Engineers, Inc. (SCS) conducted a site investigation. SCS advanced eight borings from 5' below grade (bg) to 50' bg. Soil samples collected and analyzed identified benzene, 1,1-Dichloroethane (1,1-DCA), 1,1-Dichloroethene (1,1-DCE), MEK, methyl isobutyl ketone (MIBK), toluene, 1,1,1 Trichloroethane (1,1,1-TCA), Tetrachloroethylene (PCE), and xylenes at detectable concentrations.

In June 1990, SCS performed an additional site investigation at the site by advancing six additional borings advanced from 20.5' bg to 60' bg. A monitoring well (MW-1) was also installed. Soil sample analysis identified detectable concentrations of the above mentioned VOCs in addition to acetone and methylene chloride. Dissolved benzene, 1,1-DCA, 1,1-DCE, PCE, Trichloroethylene (TCE), and trans-1,2-dichloroethene were detected in MW-1 above maximum contaminant levels.

Between 1993 and 1994, SCS performed further testing at the site. Soil samples were collected from nine borings. Five borings were converted to groundwater monitoring wells MW-2, MW-3, MW-4, MW-6, and MW-7 (See Figure 2, Well Location Map). The predominant compounds detected in soil were acetone, MEK, MIBK, PCE, toluene, 1,1,1-TCA, TCE, and xylenes. Groundwater sample collection performed in

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February 1994 by SCS identified the following using EPA method 624 (laboratory results included in Remedial Investigation Report dated August 1994 by SCS):

Component Analyzed	MW-1	MW-2	MW-3	MW-4	MW-5	MW-7
Benzene	132	100	37	111	395	16
1,1-DCA	649	1,130	85	1,410	2,260	2,130
1,2-DCA	100	100	50	100	140	130
1,1-DCE	2,210	2,460	2,800	806	1,240	151
Ethylbenzene	33	720	15	130	1,010	245
Methylene Chloride	1,220	2,980	6,530	4,760	21,400	<50
PCE	882	1,150	1,370	3,320	2,330	134
Toluene	560	7,390	579	12,700	13,500	398
1,1,1-TCA	2,370	3,470	441	36,200	114,000	904
TCE	7,160	3,040	1,730	14,300	1,320	45
Xylenes	1,750	7,290	1,015	2,132	4,002	1,863
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L

In 1996, SCS performed separate soil vapor extraction pilot testing beneath the site at approximately 10' bg and 22' bg. Laboratory analysis identified maximum soil vapor gas concentrations as 1,1,1-TCA (30,300 ppmV) with detectable concentrations of 1,1-DCE, TCE, methylene chloride, toluene, PCE and xylenes. The maximum radius of influence from the various extraction units used were measured as 35 feet at 10' bg and 80 feet at 22' bg.

In November 1997, SCS performed a soil vapor survey at the site. Soil vapor samples were collected at twenty-three locations at 5' bg. In addition, soil vapor samples were collected at 15' bg in five of the twelve sampling points. The soil vapor survey identified maximum volatile organic compound (VOC) contaminants near the railroad tracks on site, the location where a rail tanker reportedly had an accidental release.

In July 2000, BEII contracted BLC Surveying, Inc. to perform a site survey. Well locations were recorded using the California Plane coordinate systems. A copy of the survey is on file with the DTSC.

In September 2000, Blaine Tech Services, Inc. gauged the six on-site monitoring wells (MW-1, MW-2, MW-3, MW-4, MW-6, and MW-7) under the supervision of BEII. Free product (FP) was identified in monitoring well MW-4 at 0.21-feet in thickness. Approximately 0.5 liters of FP were removed from the well and placed in a sealed 55-gallon drum.

BEII performed a soil vapor gas survey at the site from November 27 to December 1, 2000. A total of 36 soil vapor sample points, labeled SV1 through SV36, were selected by BEII and approved by the DTSC for analysis. Two discrete soil vapor samples were collected from each soil vapor sample point, one at 8' bg and one at 20' bg. SV1 was an exception since the first soil vapor sample was collected at 10' bg instead of

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8' bg. Based on the soil vapor sample results, BEII identified relatively low level concentrations of VOCs in the silty clay soils at 8' bg. However, the concentrations of VOCs are significantly higher in the sandy soils at 20' bg in OU-1. Results were submitted to the DTSC by BEII in a Report of Findings dated January 10, 2001 with laboratory reports (BEII Report of Findings dated January 10, 2001).

On November 30, 2000, Blaine Tech Services, Inc. (Blaine) was contracted to perform groundwater sampling at the site. Groundwater monitoring wells MW-4 and MW-6 identified were not sampled due to the presence of free product. These wells were installed to monitor a perched groundwater body to the north. Free product was identified in MW-1 during sample collection; upon completion of well purging. The potentiometric groundwater level was above the well screen. Groundwater purging lowered the potentiometric level below the screened interval, allowing free product to enter. Groundwater sample analysis identified thirteen constituents of concern (COCs) in the dissolved phase as VOCs only. Laboratory analysis of metals and SVOCs identified concentrations below allowable levels for those constituents. Results were submitted by BEII to the DTSC in a Report of Findings dated January 10, 2001 with laboratory reports.

The remaining USTs have been excavated or slurry filled for closure under the supervision of the Santa Fe Springs fire Department. A report was submitted to the DTSC upon completion by EREMCO.

BEII performed a soil gas survey on the ACC site from January 14 to January 17, 2002. The purpose of the soil gas survey was to determine the lateral extent of VOC soil vapors in the vadose zone along the eastern, northern, and southern property line of the site (OU-1 and OU-2). In addition, BEII performed a SGS on June 13, 2002 on the Air Liquide property to determine the lateral extent of VOC soil vapors in the vadose zone north of the ACC facility (OU-1). Based on the soil gas survey results, BEII identified relatively low level concentrations of VOCs in the silty clay soils at 5' bg, 7' bg, 8' bg, 10' bg, and 12' bg (See Table 1 through Table 3 for soil gas results). However, the concentrations of VOCs are significantly higher in the sandy soils at 20' bg, which are more permeable and conducive to soil vapor migration. Furthermore, VOC soil gas concentrations were higher along the southern property line (OU-2) than along the east and north property line. Results were submitted by BEII to the DTSC in a Report of Findings dated October 15, 2002 with laboratory reports.

BEII advanced two soil borings (BSB-1 and BSB-2) and installed two groundwater monitoring wells (MW-8 and MW-9) on the ACC site from June 5 to June 7, 2002. The purpose of the drilling was to help define the lateral and vertical extent of impacted soil along the eastern ACC property line and to help determine the extent of impacted groundwater. Soil borings BSB-1 and BSB-2 were advanced to 50' bg and 30' bg, respectively. Monitoring wells MW-8 and MW-9 were installed to 40.5' bg and 45.5' bg, respectively. Soil sample results identified only four VOCs in the upper clay layer from 0' to approximately 20' bg. Total VOC soil concentrations averaged 56.66 µg/kg in the upper clay zone. Soil sample results identified elevated VOC concentrations in sand

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with lower to no detectable concentrations in the underlying clay layer. The average total VOC soil concentrations were 53,125 µg/kg in the permeable sand layer. The underlying clay layer identified an average total VOC soil concentration of 408 µg/kg. Results were submitted by BEII to the DTSC in a Report of Findings dated October 15, 2002 with laboratory reports.

BEII advanced eight soil borings (BSB-3 through BSB-10) from 40' bg to 45' bg in August 2002 to help determine the extent of impacted soil. Laboratory results were submitted by BEII to the DTSC.

In November and December of 2002, BEII advanced seven borings (BSB-11 through BSB-17) and installed twelve monitoring wells (MW-10 through MW-21) to help define the extent of VOC impacted soil and groundwater. Monitoring well MW-1 was abandoned. Laboratory results were submitted by BEII to the DTSC.

In late June of 2003, BEII installed five monitoring wells (MW-22 through MW-26) to help define the extent of VOC impacted soil and groundwater. Monitoring wells MW-2, MW-3, and MW-7 were abandoned. Laboratory results were submitted by BEII to the DTSC.

3.0) REGIONAL GEOLOGY/HYDROGEOLOGY

The site is located near the northern boundary of the Santa Fe Springs Plain within the Los Angeles Coastal Plain at an elevation of approximately 150 feet above mean sea level. Surficial sediments consist of fluvial deposits composed of inter-bedded gravel, sand, silt, and clay. Available data from California Water Resources Bulletin No. 104 (June 1961) indicate that the surficial sediments may be Holocene and/or part of the upper Pleistocene Lakewood Formation, which ranges from 40 to 50 feet thick beneath the site. The Lakewood Formation has lateral lithologic changes with discontinuous permeable zones that vary in particle size. Stratified deposits of sand, silty sand, silt, and fine gravel comprising the upper portion of the lower Pleistocene San Pedro Formation underlies the Lakewood Formation.

The site lies within the Central Basin Pressure area, a division of the Central Ground Water Basin, which extends over most of the Coastal Plain. The Gasper aquifer, a part of the basal coarse unit of Holocene deposits, is found within old channels of the San Gabriel and other rivers. The Gasper aquifer may be 40-feet in thickness, with its base at a depth of about 80 to 100-feet bg. The underlying Gage aquifer is found within the Pleistocene Lakewood Formation. The Hollydale aquifer is the uppermost regional aquifer in the Pleistocene San Pedro Formation. Bulletin 104 indicates that this aquifer averages approximately 30-feet in thickness in this area, with its top at a depth of about 70 feet bg. The major water producing aquifers in the region are the Lynwood aquifer located approximately 200-feet bg, the Silverado aquifer located at approximately 275-feet bg, and the Sunnyside aquifer located at approximately 600-feet bg.

4.0) SITE GEOLOGY/HYDROGEOLOGY

SCS identified silty clays with some minor amounts of silt and sand in the shallow subsurface from surface grade to approximately 15' bg. Below the silty clay, poorly sorted coarse-grained sand and gravel from 15' bg to 26' bg. SCS referenced a less permeable silty clay layer between 35' and 50' bg, which contained stringers of fine sand and silt that is part of the Gaspar/Hollydale aquifer.

A perched aquifer was encountered at approximately 23' bg by SCS and referenced as such by SCS. Based on a review of McKesson files, Harding Lawson Associates (HLA) stated that in January 1975 prior to McKesson operating their neighboring facility, no groundwater was encountered to a depth of 45' bg beneath the McKesson property. In March 1986, during operation of the neighboring McKesson facility, groundwater was encountered at 22' bg beneath the McKesson property as stated by HLA. Based on the HLA statements, BEII concludes with SCS that the first encountered groundwater is part of a shallow perched aquifer. The sediments within this perched aquifer appear to be consistent with the Gaspar Aquifer. Monitoring wells MW-4, MW-6, MW-8, MW-9, MW-10, MW-11, MW-12, MW-16, MW-18, MW-19, MW-22, and MW-26 will be noted as Gaspar monitoring wells with groundwater at approximately 32' bg. The water identified in monitoring well MW-4 at 26.41' bg is more than likely residual groundwater contained in the well sump and will not be incorporated in the gradient.

SCS also referenced that the Gaspar/Hollydale Aquifer was encountered at 20' to 35' bg beneath the site. Further review of Bulletin 104 by BEII and DTSC, identified that the SCS referenced Gaspar/Hollydale Aquifer was in fact the Gage/Hollydale Aquifer. Monitoring wells MW-13, MW-14, MW-15, MW-17, MW-20, MW-21, MW-23, MW-24, and MW-25 will be noted as Gage/Hollydale monitoring wells since they are screened in that deeper groundwater which is now at approximately 40' bg.

The groundwater gradient flowed historically to the southwest as identified by SCS. In December 2003, the shallow groundwater was identified at depths between 33.71' bg to 42.73' bg beneath the site. The potentiometric groundwater flow direction of this shallow zone (Gaspar Aquifer) is away from the high point (MW-10) with a hydraulic gradient of 0.04 ft/ft to the north and 0.02 to 0.13 ft/ft to the south (See Figure 3). Groundwater in the deeper Gage/Hollydale was identified at depths between 42.65' bg to 47.35' bg beneath the site. The potentiometric groundwater flow in the Gage/Hollydale Aquifer is to the west-southwest direction with a hydraulic gradient of 0.009 ft/ft (See Figure 4).

5.0) GROUNDWATER MONITORING PROTOCOL

The purpose of the proposed groundwater monitoring was to provide data regarding the piezometric surface, water quality, and the presence of free product (FP), if any on a quarterly basis to the DTSC. Groundwater monitoring consisted of such

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activities as water level measurement, well sounding for detection of FP, collection of groundwater samples, field analysis, laboratory analysis, and reporting. The proposed work was performed as follows:

The depth to groundwater was measured in each well using a decontaminated water level indicator capable of measuring to within 1/100th of a foot. Prior to and following collection of measurements from each well, the portions of the water level indicator entering groundwater were decontaminated using a 3-stage decontamination procedure consisting of a potable wash with water containing Liquinox soap followed by a double purified water rinse. The depth to water was measured in all monitoring wells before any wells were purged. Wells were measured in the order of least contaminated to the most contaminated based on past analysis. For the ACC wells, the following order of wells was followed: MW-23, MW-24, MW-25, MW-17, MW-20, MW-15, MW-14, MW-12, MW-13, MW-21, MW-9, MW-16, MW-22, MW-18, MW-11, MW-26, MW-10, MW-8, MW-6, MW-19, and MW-4.

The well box and casing were opened carefully to preclude debris or dirt from falling into the open casing. Once the well cap was removed, the water level indicator was lowered into the well until a consistent tone was registered. Several soundings were repeated to verify the measured depth to groundwater. The depth of groundwater was measured from a reference point marked on the lip of each well casing. A licensed surveyor has surveyed the elevation of each reference point. The result was recorded on the field sampling log for each well. Other relevant information such as physical condition of the well, presence of hydrocarbon odors, etc. was also recorded as appropriate on the field sampling log.

The well sounder used for this project was equipped to measure free product (FP) layers thicker than 0.1 inches. FP was indicated as light non-aqueous phase liquid (LNAPL) or dense non-aqueous phase liquid (DNAPL).

Groundwater purging was conducted immediately following the collection of a groundwater depth measurement from all monitoring wells. Groundwater samples were analyzed for the following constituents (new wells for TPH-gas and VOCs only):

- Volatile organic compounds (VOCs) using EPA Method 8260B to include all Tentatively Identified Compounds (TICs).
- Total Petroleum Hydrocarbons as gasoline (TPH-gas) using EPA Method 8015 modified.
- Total dissolved solids (TDS) using EPA Method 160.1.
- Nitrates, chloride, sulfate, sulfide, ferrous iron, and manganese using EPA Methods 352.1, 325.3, 375.4, 376.1, 7380, and 7460, respectively.
- Alkalinity, carbonates, and bicarbonates using EPA Methods 310.1 and Standard Method 4500.
- Total organic carbon (TOC) and dissolved organic carbon (DOC) using EPA Method 415.1.

5.1) Well Purging and Measurement of Field Parameters

Wells were purged in the above mentioned order (see Section 5.0) to minimize the potential for cross contamination. The wells were purged by Blaine Tech Services, Inc (Blaine) and sampled by BEI from December 9 through 11, 2003 in the presence of Mr. Sanford Britt of the DTSC. Diffusion bags were removed on December 15, 2003. The purge protocol was presented in the Field Sampling Plan as Appendix A in the Groundwater Monitoring Work Plan dated October 23, 2001 and submitted to the DTSC.

Prior to purging, casing volumes was calculated based on total well depth, standing water level, and casing diameter. One casing volume was calculated as:

$$V = \pi(d/2)^2 h \times 7.48$$

where:

V is the volume of one well casing of water (in gallons, $1 \text{ ft}^3 = 7.48$ gallon);
d is the inner diameter of the well casing (in feet); and
h is the total depth of water in the well - the depth to water level (in feet).

A minimum of three casing volumes of water was purged from each well. Water was collected into a measured bucket to record the purge volume. All purged groundwater was containerized in 55-gallon hazardous waste drum for disposal at a later date.

After each well casing volume was purged; water temperature, pH, specific conductance (EC), and turbidity were measured using field test meters and the measurements were recorded on Well Monitoring Data Sheets (See Appendix A). Samples were collected after these parameters have stabilized; indicating that representative formation water has entered the well. The temperature, pH, and specific conductance should not vary by more than 10 percent from reading to reading. Turbidity should be less than 5 NTUs, however, the purging process stirred up silty material in each well which made the turbidity measurements of 5 NTUs unattainable. Groundwater samples were collected after water levels recharged to 80 percent of the static water column. Notations of water quality including color, clarity, odors, sediment, etc. were also noted in the data sheets.

All field meters were calibrated according to manufacturers' guidelines and specifications before and after each day of field use. Field meter probes were decontaminated before and after use at each well. The pH, conductivity, and temperature were measured with a Myron-L Ultra Meter and turbidity was measured with a HF Scientific DRT-15C meter. The calibration standards used

for pH were 4 and 7 with expiration dates of February 2004. Conductivity was calibrated to a 3900 μ S standard with an expiration date of February 2004. A 0.02 NTU standard was used to calibrate the turbidity with an expiration date of February 2004.

5.2) Well Sampling

Groundwater samples were collected by lowering a separate disposable bailer into each well. Groundwater was transferred from the bailer directly into the appropriate sample containers with preservative, if required, chilled, and processed for shipment to the laboratory. When transferring samples, care was taken not to touch the bailer-emptying device to the sample containers. Diffusion bags were used to collect water samples from MW-23, MW-24, and MW-25 at 1.5-feet and 7.5-feet below measured groundwater. Water samples were transported to Southland Technical Services, Inc., a certified laboratory by the California Department of Health Services (Cert. #1986) to perform the requested analysis.

Groundwater samples were collected from monitoring wells MW-23, MW-24, MW-25, MW-14, MW-17, MW-20, MW-15, MW-21, MW-13, MW-12, MW-9, MW-16, MW-26, MW-18, MW-11, MW-10 only. Monitoring wells MW-4, MW-6, MW-8, MW-16, and MW-19 identified FP as LNAPL at a thickness of 0.04', 0.08', 0.66', 0.77' and 4.65', respectively. The FP thickness in MW-6 is assumed based on the depth of the well bottom since no water was identified in the well.

Vials for VOC and TPH analysis were filled first to minimize aeration of groundwater collected in the bailer. The laboratory provided vials containing sufficient HCl preservative to lower the pH to less than 2. The vials were filled directly from the bottom-emptying device. The vial was capped with a cap containing a Teflon septum. Blind duplicate samples for the laboratory were labeled as "MW-1" and "MW-2" and were collected from monitoring wells MW-14 and MW-21, respectively. All vials were inverted and tapped to check for bubbles to insure zero headspace.

New nitrile gloves were worn during by sampling personnel for each well to prevent cross contamination of the samples. A solvent free label was affixed to each sample container/vial denoting the well identification, date and time of sampling, and an identifying code to distinguish each individual bottle.

5.3) Sample Handling

VOA vials, including laboratory trip blanks, were placed inside of one new Ziplock bag per well and stored in a cooler chilled to approximately 4°C with bagged ice. Water samples were logged on the chain-of-custody forms

immediately following sampling of each well to insure proper tracking through analysis to the laboratory.

5.4) Waste Management

FP, purged groundwater, and decontamination water were stored in sealed 55-gallon drums for a period not to exceed 90 days. Stored wastes will be profiled for hazardous constituents and characterized as Non-Hazardous, California Hazardous, or RCRA Hazardous, as appropriate. Any transportation of waste will be under appropriate manifest.

6.0) FREE PRODUCT

Monitoring wells MW-4, MW-6, MW-8, MW-16, and MW-19 identified FP as LNAPL at a thickness of 0.04-feet, 0.08-feet, 0.66-feet, 0.77-feet, and 4.65-feet, respectively. A total of 2.75 gallons of FP was recovered from MW-4 and MW-6, 12 gallons of FP was recovered from MW-8, 0.5 gallons was recovered from MW-16, and 2 gallons of FP was recovered from MW-19 to date.

Laboratory analysis of the FP was performed in June 2002 and identified dissolved TPH-gas at 812,000 mg/L from MW-6 and 801,000 mg/L from MW-8. Concentrations of dissolved TPH as diesel were also identified in FP as 53,400 mg/L from MW-6 and 56,600 mg/L from MW-8. No detectable concentrations of TPH as motor oil were identified in FP collected from both wells. Previous laboratory analysis of FP collected from monitoring well MW-6 identified 1,1,1-TCA at 28,100 mg/L, 1,2,4-Trimethylbenzene at 22,100 mg/L, Xylenes at 10,370 mg/L, Toluene at 9,010 mg/L, 1,3,5-Trimethylbenzene at 5,400 mg/L, and Ethylbenzene at 4,320 mg/L.

FP from MW-16 and MW-19 was collected and analyzed this quarter for TPH using EPA method 8015. Monitoring well MW-16 contained FP in the gasoline range (C₄-C₁₂) as 455,000 mg/L and FP in the diesel range (C₁₃-C₂₃) as 101,000 mg/L. Monitoring well MW-19 contained FP in the gasoline range (C₄-C₁₂) as 425,000 mg/L and FP in the diesel range (C₁₃-C₂₃) as 58,700 mg/L.

7.0) GROUNDWATER SAMPLE RESULTS

Groundwater samples collected from the shallow zone (Gasper) monitoring wells MW-9, MW-10, MW-11, MW-12, MW-16, and MW-18 in December 2003 contained TPH-gas ranging from 77,200 µg/L in MW-10 to 1,280 µg/L in MW-9. Monitoring wells MW-22 and MW-26 contained an insufficient volume of water to retrieve a sample. Laboratory results are included as Appendix B. Dissolved TPH-gas concentrations averaged 35,194 µg/L in the shallow Gasper Aquifer, an increase from the 29,706 µg/L average identified in September 2003. The largest increase in TPH-gas was identified in MW-11 from 30,200 µg/L (September 2003) to 51,500 µg/L (December 2003). See Table 1 and Figure 5 for dissolved TPH-gas concentrations.

Groundwater samples collected from the deeper zone (Gage/Hollydale) monitoring wells MW-13, MW-14, MW-15, MW-17, MW-20, MW-21, MW-23, MW-24, and MW-25 in December 2003 contained TPH-gas ranging from 2,140 µg/L in MW-21 to non-detect (<50 µg/L) in MW-17. The concentrations of dissolved TPH-gas averaged 774 µg/L in the deeper Gage/Hollydale Aquifer, an increase from the 185 µg/L average identified in September 2003. The increase in average TPH-gas was the exclusion of MW-23, MW-24, and MW-25 from TPH-gas analysis, which previously were non-detect and included in the average. See Table 1 and Figure 6 for dissolved TPH-gas concentrations.

Concentrations of dissolved BTEX ranged between 19,632 µg/L in MW-10 to <5.1 µg/L in MW-12 from the shallow Gasper Aquifer (See Figure 5 and Table 2). The less than value includes those concentrations reported as Practical Quantitation Limit (PQL), which is defined as the method detection limit multiplied by the dilution factor (See Appendix B for laboratory results). The average dissolved BTEX concentration in the Gasper from the 2003 fourth quarter sampling was <7,307 µg/L, a decrease from <7,860 µg/L from the previous sampling episode.

Dissolved BTEX in the deeper Gage/Hollydale Aquifer ranged between <157.9 µg/L in MW-21 to <4 µg/L in MW-13, MW-14, MW-17, MW-23, MW-24, and MW-25 (See Figure 6 and Table 2). The 2003 fourth quarter sample episode identified an average dissolved BTEX concentration of <26.9 µg/L in the Gage/Hollydale, a slight increase from <23 µg/L the previous sampling episode.

Groundwater sample results from the shallow Gasper Aquifer identified relatively high VOC concentrations compared to the low VOC concentrations in the deeper Gage/Hollydale Aquifer (See Table 2 and Appendix B for laboratory results).

Concentrations of dissolved PCE were identified at a maximum concentration of <400 µg/L from MW-10 and MW-11 in the shallow Gasper zone. Dissolved TCE was identified at a maximum of 169 µg/L from MW-18 in the Gasper (See Figure 7). The average dissolved PCE and TCE concentrations for the fourth quarter 2003 were <202 µg/L and <195 µg/L, respectively. Maximum concentrations of dissolved PCE and TCE in the Gage/Hollydale were detected as 133 µg/L and 140 µg/L, respectively in groundwater collected from MW-21 (See Figure 8). The fourth quarter average PCE and TCE dissolved concentrations in the deeper Gage/Hollydale zone were <43 µg/L and <37 µg/L, respectively.

Dissolved concentrations of 1,1,1-TCA were identified in the shallow Gasper Aquifer at a maximum of 7,460 µg/L in MW-10 (See Figure 7). Monitoring well MW-18 located downgradient of MW-10 identified dissolved 1,1,1-TCA as 420 µg/L. The average dissolved 1,1,1-TCA concentration in the Gasper Aquifer was identified as <1,891 µg/L this quarter, an increase from <978 µg/L identified the previous quarter. The increase in average 1,1,1-TCA was the exclusion of MW-16 and MW-26 (no data),

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which previously were included in the average. Lower concentrations of dissolved 1,1,1-TCA were detected in the deeper Gage/Hollydale Aquifer at a maximum of 132 µg/L in MW-21 (See Figure 8). Dissolved 1,1,1-TCA was also identified in MW-20 at 81.7 µg/L. No significant concentrations of 1,1,1-TCA (above 5 µg/L) were detected in all other Gage/Hollydale Aquifer monitoring wells.

Groundwater samples were also analyzed for 1,4-Dioxane, a preservative used in 1,1,1-TCA to prolong its shelf life. However, 1,4-Dioxane is more miscible in groundwater than 1,1,1-TCA and will often lead the dissolved 1,1,1-TCA plume. Gasper monitoring wells MW-10, MW-11, and MW-18 identified dissolved 1,4-Dioxane concentrations between <10,000 µg/L and <1,250 µg/L due to high dilution factors. Gage/Hollydale monitoring wells MW-13, MW-14, MW-15, MW-17, MW-21, MW-23, MW-24, and MW-25 identified dissolved 1,4-Dioxane concentrations between <1,000 µg/L and <100 µg/L due to dilution factors.

Concentrations of dissolved chlorinated VOC daughter products were relatively elevated compared to their respective parent VOCs identified above and also showed a trend of higher dissolved concentrations in the shallow Gasper Aquifer compared to the deeper Gage/Hollydale Aquifer.

1,1-DCA is a daughter product from reductive dehalogenation of 1,1,1-TCA and from carbon-carbon double bond reduction of 1,1-DCE, another daughter product. Dissolved 1,1-DCA concentrations were identified between 50 µg/L and 53,500 µg/L in the Gasper Aquifer (See Figure 7). The greatest dissolved 1,1-DCA concentration was observed in MW-10. The average dissolved 1,1-DCA concentration in the shallow Gasper zone was identified as 21,785 µg/L this quarter, an increase since the previous quarter average of 15,145 µg/L. Dissolved 1,1-DCA concentrations in the Gage/Hollydale Aquifer ranged between <2 µg/L and 2,300 µg/L (See Figure 8). Monitoring well MW-21 located along the southwest property boundary contained the highest dissolved 1,1-DCA concentrations in the Gage/Hollydale Aquifer as 2,300 µg/L. The second highest dissolved 1,1-DCA concentration identified from MW-15 was only 262 µg/L. The average dissolved 1,1-DCA concentration in the Gage/Hollydale Aquifer this quarter was <324 µg/L, an increase from the third quarter average (<178 µg/L).

Dissolved 1,1-DCE, a daughter product of the dehydrohalogenation of 1,1,1-TCA and reductive dehalogenation of TCE, was identified at concentrations ranging from 7.3 µg/L to 4,170 µg/L in the shallow Gasper zone (See Figure 7). The maximum dissolved 1,1-DCE concentration was observed in MW-18. The next largest dissolved 1,1-DCE concentration was identified as 2,750 µg/L in groundwater collected from MW-10. The average dissolved 1,1-DCE concentration in the Gasper Aquifer this quarter was 1,756 µg/L, a decrease from the previous average of 2,396 µg/L in September 2003. Dissolved 1,1-DCE concentrations in the Gage/Hollydale Aquifer ranged between <2 µg/L and 1,960 µg/L (See Figure 8). Gage/Hollydale monitoring well MW-21 located along the southwest property boundary contained the maximum dissolved 1,1-DCE concentration

(1,960 µg/L). The average dissolved 1,1-DCE concentration in the Gage/Hollydale Aquifer this quarter was <328 µg/L.

Cis-1,2 DCE is also a daughter product of the dehydrohalogenation of 1,1,1-TCA and reductive dehalogenation of TCE. Concentrations of dissolved cis-1,2-DCE were identified between 8 µg/L and 15,900 µg/L in the Gasper Aquifer (See Figure 7). The greatest dissolved cis-1,2-DCE concentration was observed in MW-18. The average dissolved cis-1,2-DCE concentration in the Gasper Aquifer this quarter was <6,711 µg/L, an increase from the third quarter average of <5,132 µg/L. Dissolved cis-1,2-DCE concentrations in the Gage/Hollydale Aquifer ranged between <2 µg/L and up to a maximum of 4,400 µg/L identified from MW-21 (See Figure 8). Gage/Hollydale monitoring well MW-15 contained the second largest dissolved 1,1-DCE concentration of 1,570 µg/L. The average dissolved cis-1,2-DCE concentration in the Gage/Hollydale Aquifer this quarter was <682 µg/L, an increase from the previous quarterly average of <331 µg/L.

Vinyl chloride (VC) is a by-product from the dehydrohalogenation and reductive dehalogenation of the chlorinated VOC daughter products mentioned above. Similar to the other VOCs, concentrations of dissolved VC were at lower concentrations in the deeper Gage/Hollydale than in the shallow Gasper zone. Dissolved VC concentrations were identified between 5.2 µg/L and 3,700 µg/L in the shallow Gasper zone (See Figure 7). Monitoring well MW-10 contained the largest dissolved VC concentration in the Gasper. However, dissolved VC concentrations in the Gage/Hollydale ranged from <2 µg/L to 134 µg/L (See Figure 8). The maximum dissolved VC concentration was located along the southwest property line in monitoring well MW-15.

Maximum dissolved concentrations of acetone and MEK were identified in Gasper monitoring well MW-18 as 32,400 µg/L and 23,700 µg/L, respectively (See Figure 9). Groundwater collected from MW-10 also identified elevated concentrations of dissolved acetone as 19,200 µg/L and dissolved MEK as 4,080 µg/L. Average concentrations of dissolved acetone and MEK in the Gasper Aquifer this quarter were 21,262 µg/L and 15,252 µg/L, respectively. No detectable concentrations of acetone or MEK were identified above method detection limit from the 2003 fourth quarter groundwater monitoring episode in the Gage/Hollydale Aquifers (See Figure 10). However, the detection limits were <100 µg/L in some samples due to dilution factors.

Dissolved methylene chloride concentrations were identified below 400 µg/L in MW-10 and MW-11 from the shallow Gasper zone (See Figure 9). Methylene chloride was <40 µg/L in MW-21 and <5 in the remaining Gage/Hollydale Aquifer monitoring wells sampled (See Figure 10). No detectable concentrations of dissolved methylene chloride were identified. The detection limits for dissolved methylene chloride were high in some samples (<400 µg/L) due to the high dilution factors.

Most groundwater samples were also analyzed for biodegradation indicators (See Table 3 for laboratory results). Further comparative data needs to be acquired prior to evaluating biodegradation processes. Subsequent groundwater analysis will include these biodegradation indicators.

8.0) CONCLUSIONS

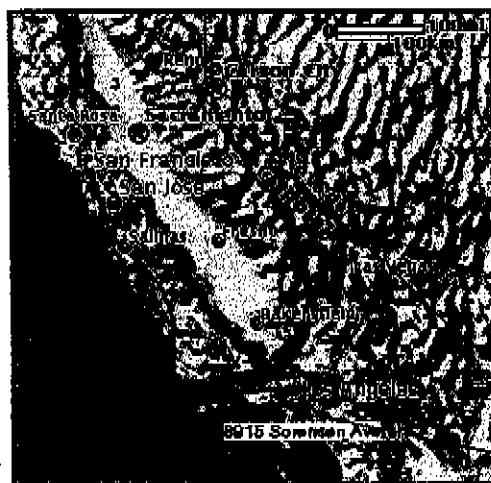
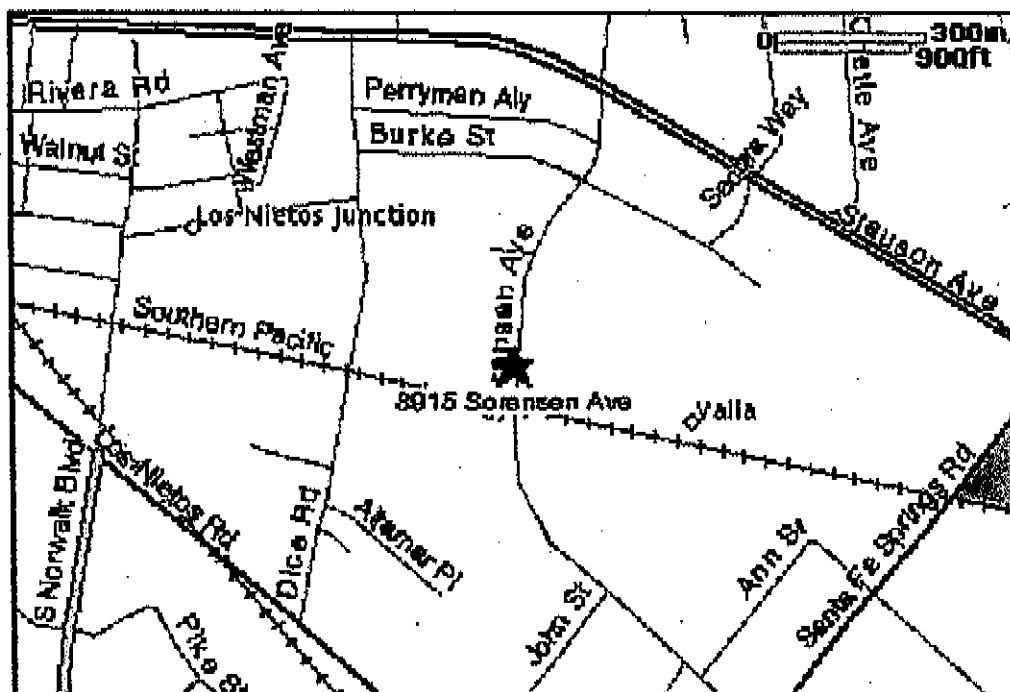
Based on the recent groundwater sample results, BEII concludes that the site is impacted by dissolved VOCs in both the Gasper and Gage/Hollydale Aquifers. Dissolved VOC concentrations, however, were detected at higher concentrations in the shallow Gasper zone compared to the Gage/Hollydale Aquifer. Monitoring wells Gasper monitoring wells located next to MW-10, MW-11, and MW-18 contained elevated dissolved VOC concentrations. Gage/Hollydale monitoring wells located along the southern property boundary contained the maximum dissolved VOC concentrations in that aquifer.

BEII also concludes that the recent groundwater sampling data provides preliminary support that the site has potential for intrinsic biodegradation. Dissolved parent VOC (PCE and TCE) concentrations were identified at concentrations $< 800 \mu\text{g/L}$. 1,1,1-TCA was the only parent VOC that was identified at greater than $4,500 \mu\text{g/L}$ exclusively in MW-10. Daughter VOC constituents such as 1,1-DCA, 1,1-DCE, cis-1,2-DCE, and VC identified dissolved concentrations of up to $53,500 \mu\text{g/L}$. The low parent VOC concentration to high daughter VOC concentration ratio is a preliminary indicator of intrinsic biodegradation. However, further groundwater monitoring is needed to determine whether intrinsic biodegradation is occurring.

9.0) RECOMMENDATIONS

BEII recommends that quarterly groundwater monitoring for VOCs and TPH-gas be continued at the former ACC property. BEII further recommends that free product removal be performed on a monthly basis to reduce its mass.

Figures



Blakely Environmental
Investigations, Inc.
4359 Phelan Road
Phelan, CA 92371

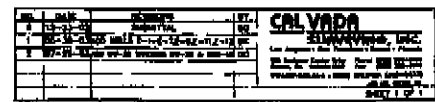
Site Location Map

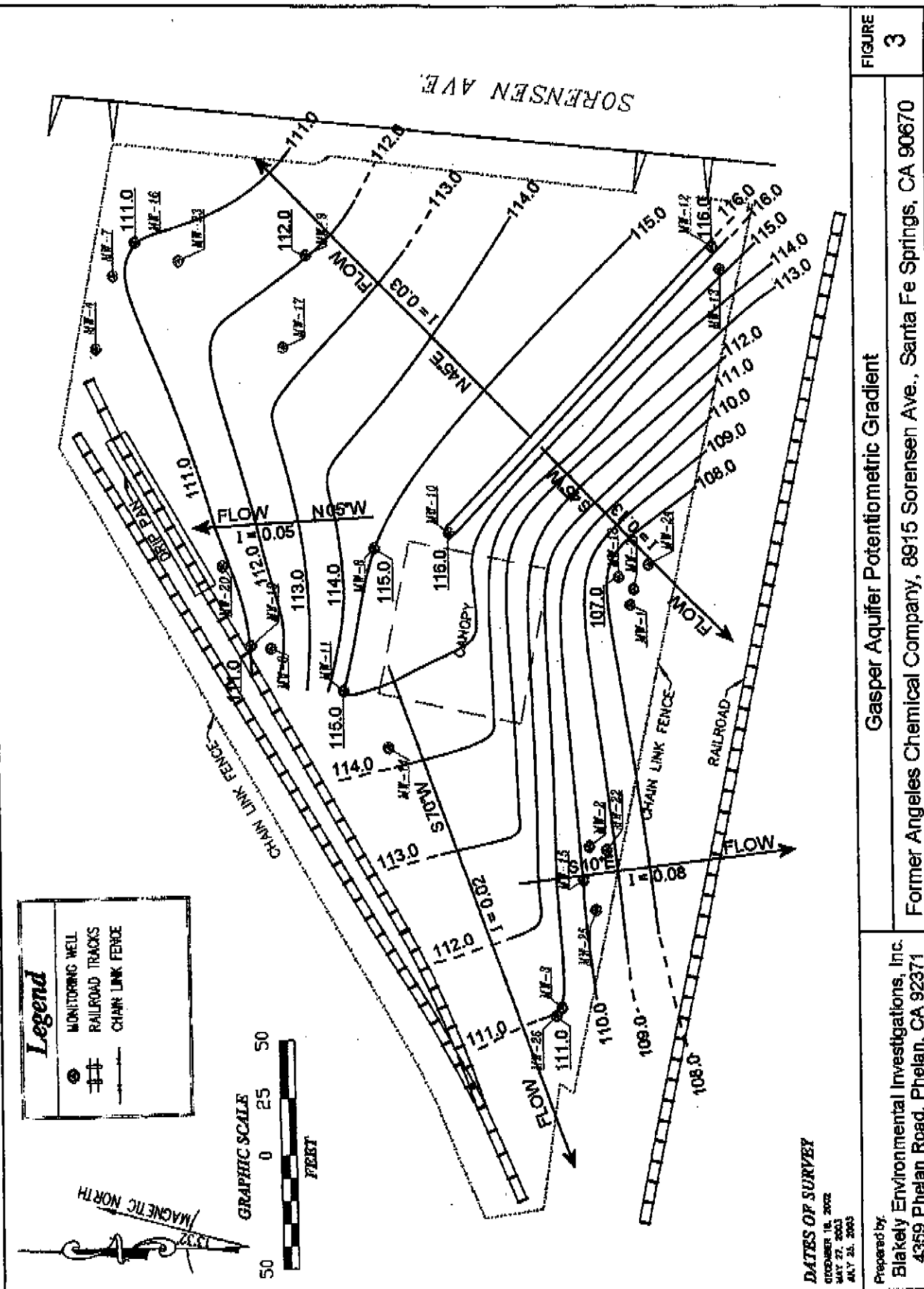
Former Angeles Chemical Company
8915 Sorensen Ave., Santa Fe Springs, CA 90670

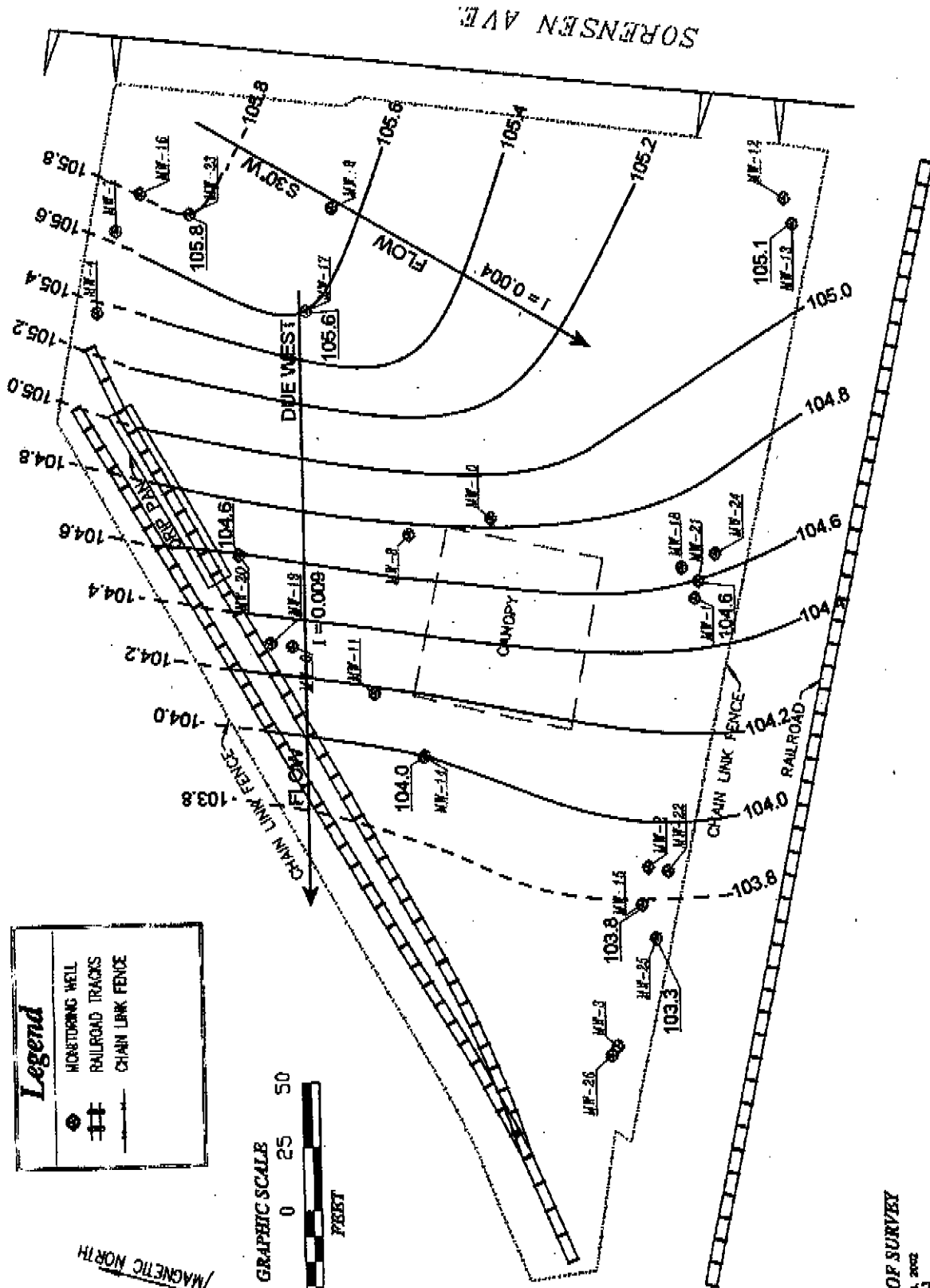
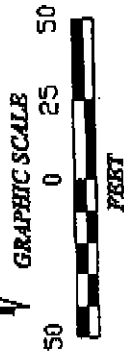
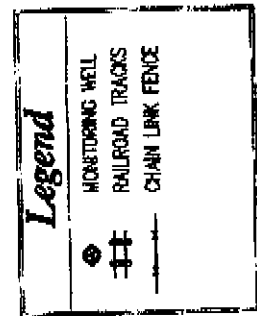
FIGURE

1

8915 SORENSEN AVENUE, SANTA FE SPRINGS, CA 90670







DATES OF SURVEY

DECEMBER 18, 2002
MAY 27, 2003
JULY 25, 2003

Prepared by:
Blakely Environmental Investigations, Inc.
4369 Phelan Road, Phelan, CA 92371

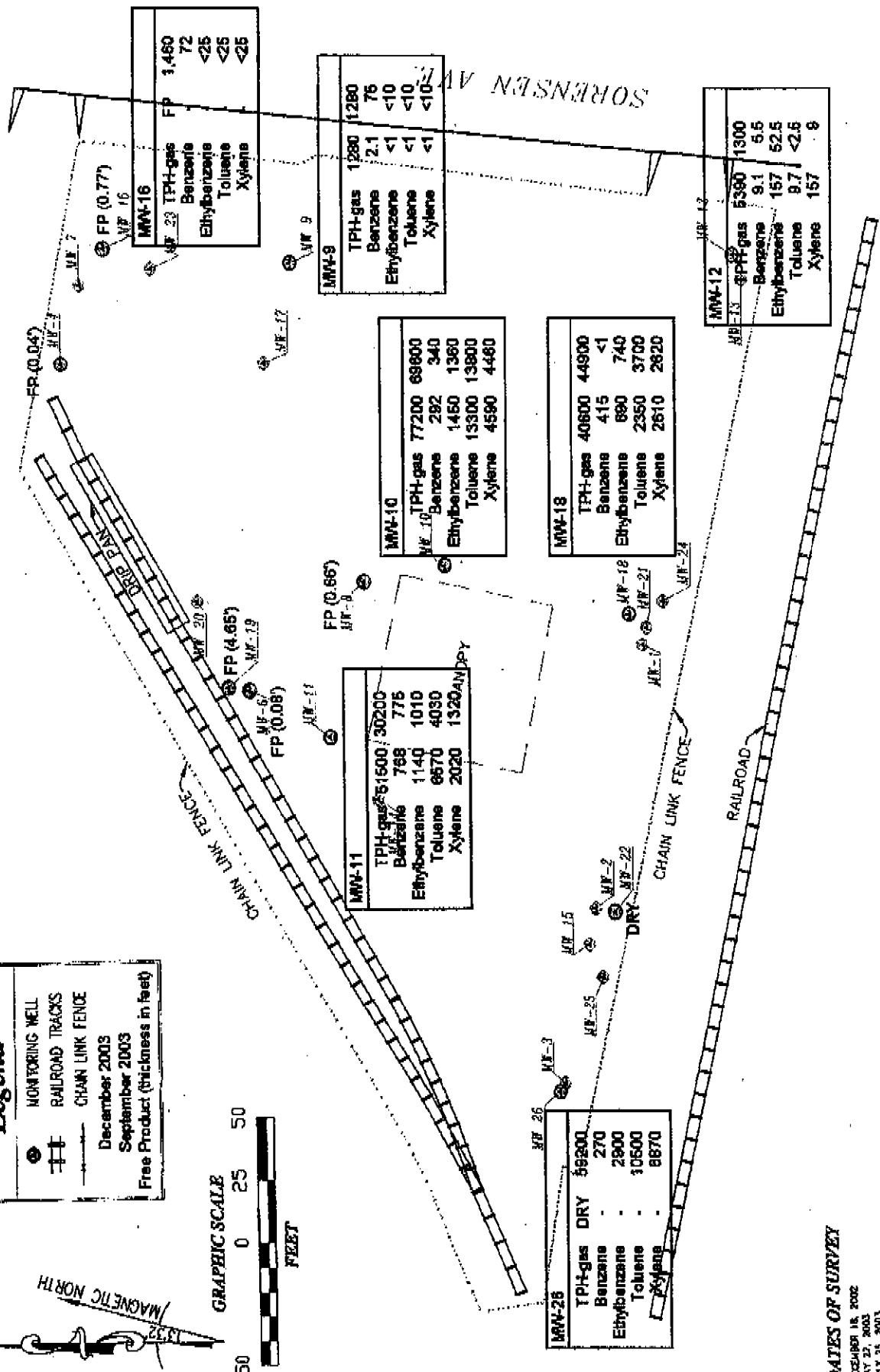
Gage/Hollydale Aquifer Potentiometric Gradient

Former Angeles Chemical Company, 8915 Sorensen Ave., Santa Fe Springs, CA 90670

Legend

- MONITORING WELL
- RAILROAD TRACKS
- CHAIN LINK FENCE

December 2003
September 2003
Free Product (thickness in feet)



DATES OF SURVEY
 DECEMBER 18, 2002
 MAY 27, 2003
 JULY 25, 2003

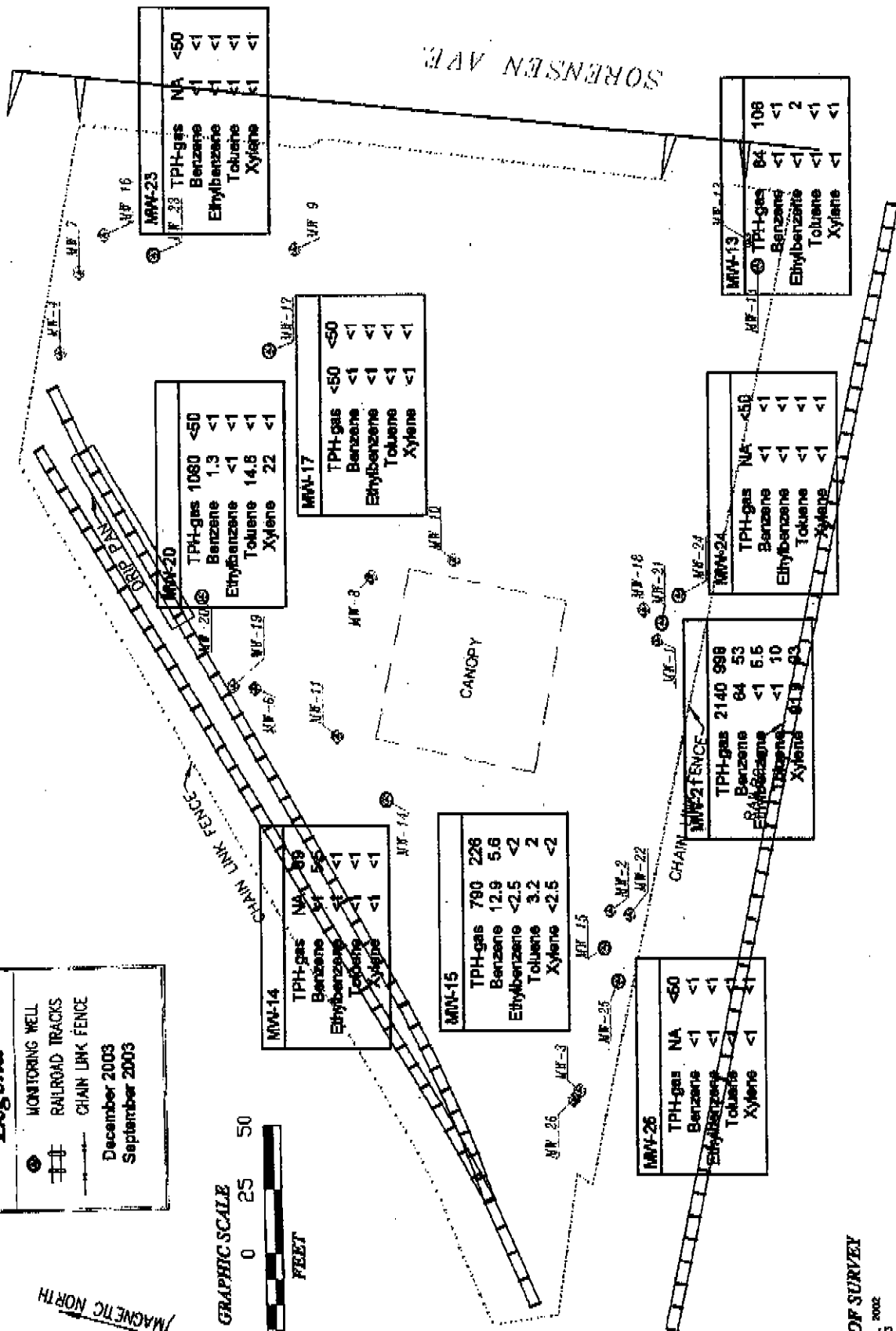
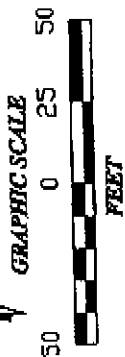
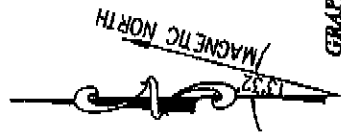
Prepared by:
 Blakely Environmental Investigations, Inc.
 4359 Phelan Road, Phelan, CA 92371

TPH-gas and BTEX Concentrations in Gasper Aquifer (µg/L)
 Former Angeles Chemical Company, 8915 Sorensen Ave., Santa Fe Springs, CA 90670

Legend

- MONITORING WELL
- RAILROAD TRACKS
- CHAIN LINK FENCE

December 2003
September 2003



DATES OF SURVEY
 DECEMBER 18, 2002
 MAY 27, 2003
 JULY 28, 2003

Prepared by:
 Blakely Environmental Investigations, Inc.
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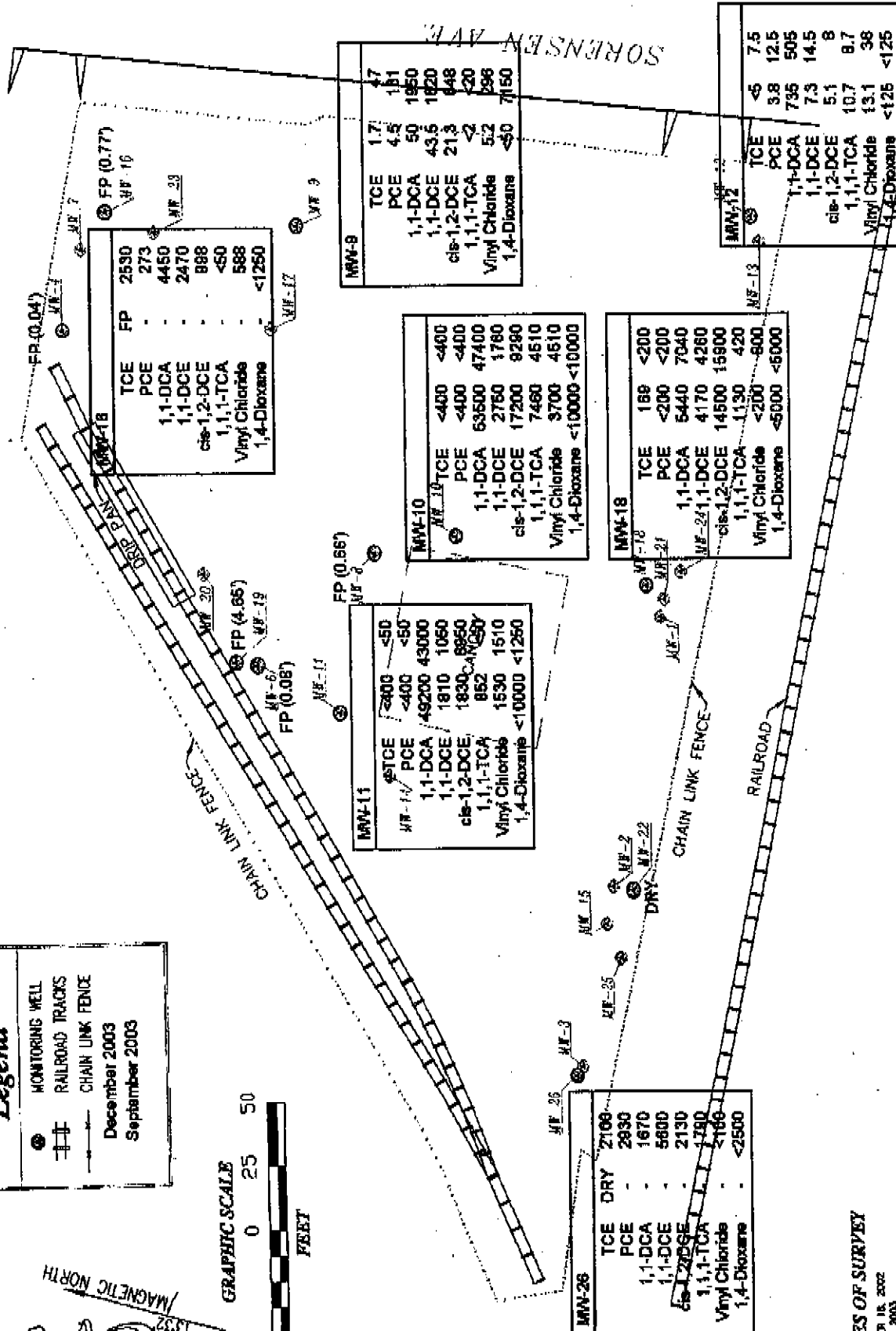
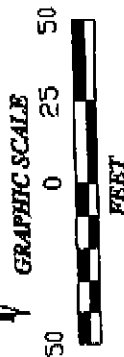
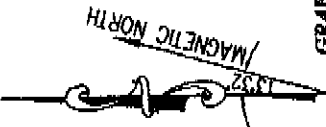
TPH-gas and BTEX Concentrations in Gage/Hollydale Aquifer (µg/L)

Former Angeles Chemical Company, 8915 Sorensen Ave., Santa Fe Springs, CA 90670

Legend

● MONITORING WELL
 || RAILROAD TRACKS
 --- CHAIN LINK FENCE

December 2003
 September 2003

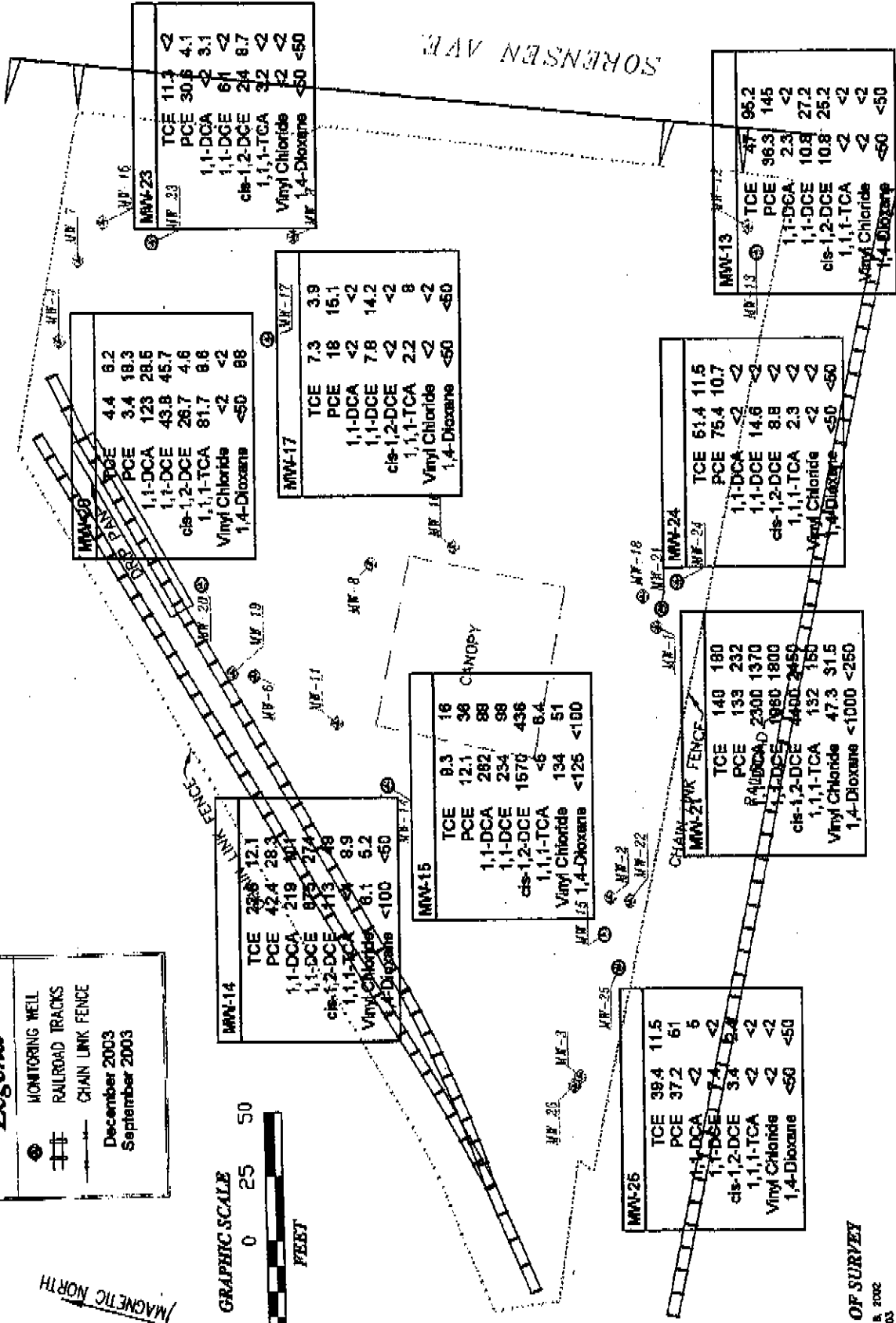
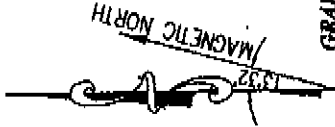


DATES OF SURVEY
 December 18, 2002
 May 27, 2003
 July 25, 2003

Legend

- MONITORING WELL
- RAILROAD TRACKS
- CHAIN LINK FENCE

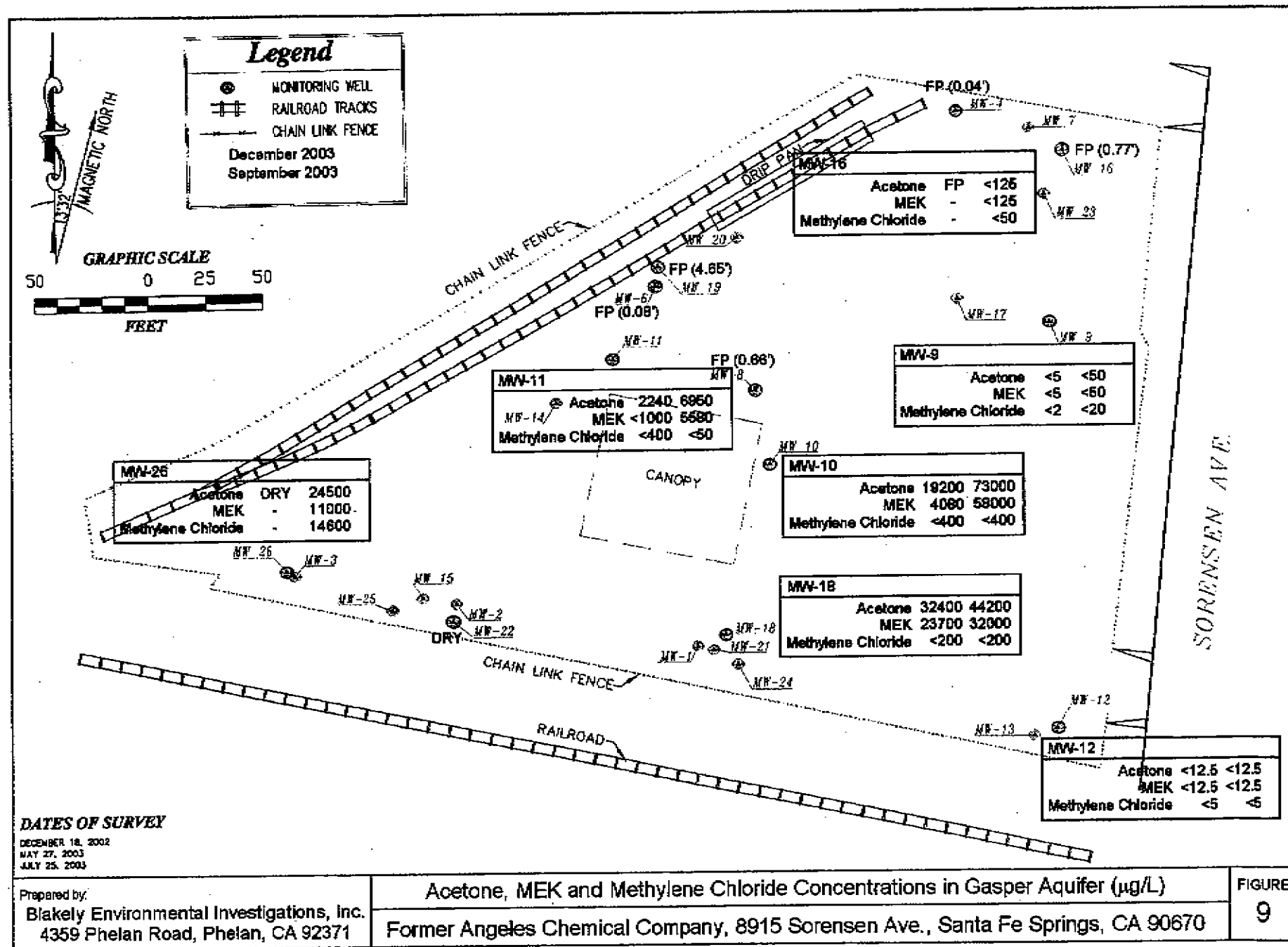
December 2003
September 2003



DATES OF SURVEY
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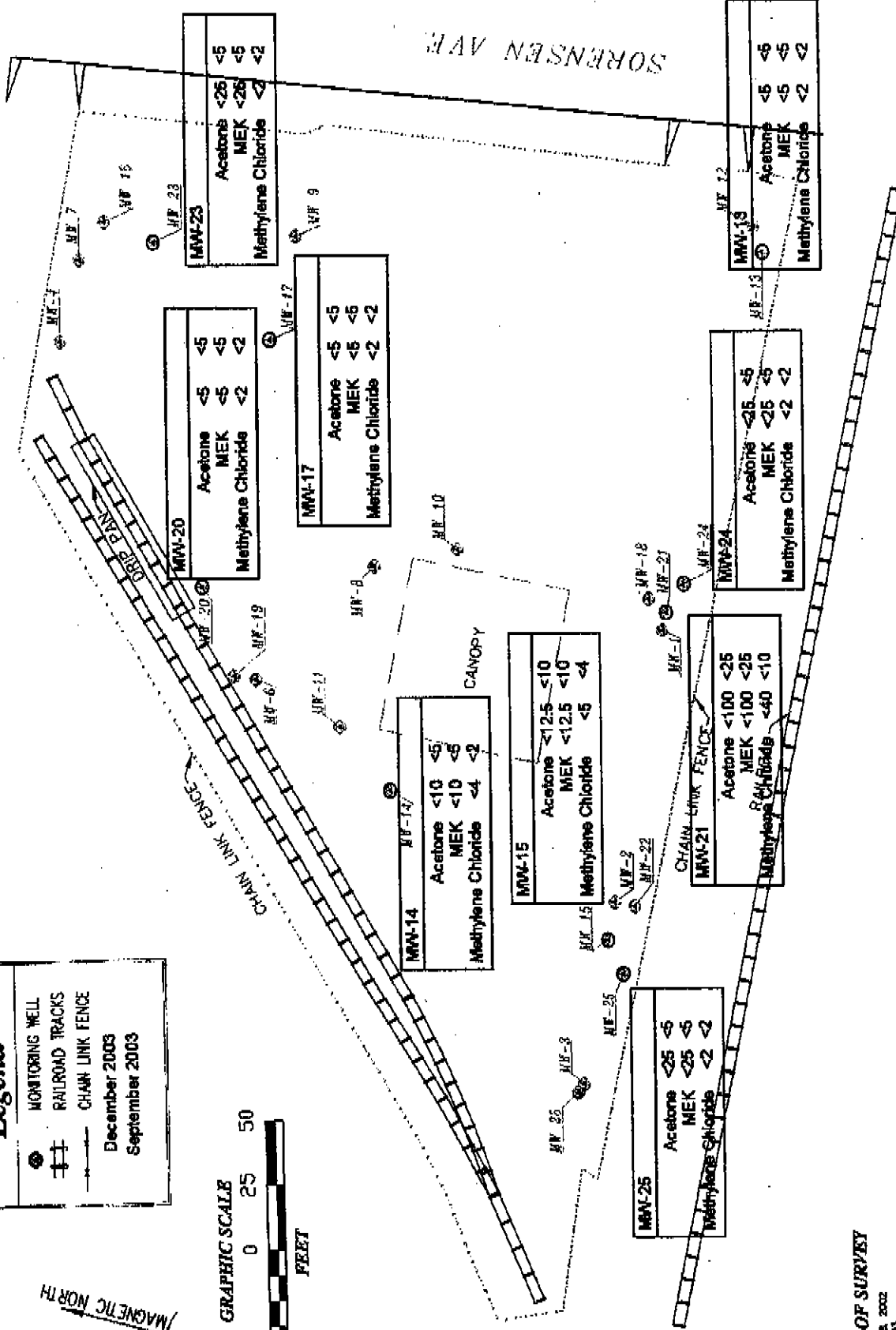
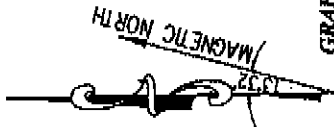
Prepared by:
Blakely Environmental Investigations, Inc.
4359 Phelan Road, Phelan, CA 92371

Chlorinated VOC and 1,4-Dioxane Concentrations in Gage/Hollydale Aquifer (µg/L)
Former Angeles Chemical Company, 8915 Sorensen Ave., Santa Fe Springs, CA 90670



Legend

MONITORING WELL
 RAILROAD TRACKS
 CHAIN LINK FENCE
 December 2003
 September 2003



DATES OF SURVEY

005409 18, 2002
 MAY 27, 2003
 JULY 25, 2003

Prepared by:
 Blakely Environmental Investigations, Inc.
 4359 Phelan Road, Phelan, CA 92371

Acetone, MEK and Methylene Chloride Concentrations in Gage/Hollydale Aquifer (ug/L)
 Former Angeles Chemical Company, 8915 Sorensen Ave., Santa Fe Springs, CA 90670

Tables

Table 1: Conductivity, pH, and TPH-gas Groundwater Sample Results using EPA Method 8018 (mg/L)

	Date	MW-1 40-60'	MW-2 30-50'	MW-3 20-40'	MW-4 17-27'	MW-5 20-30'	MW-6 34-55'	MW-7 30.5-40.5'	MW-8 30.5-45.5'	MW-9 29-40'	MW-10 30-40'	MW-11 30-40'	MW-12 32-62'	MW-13 58-68'	MW-14 54-64'	MW-15 20-48'	MW-16 58-68'	MW-17 21-48'	MW-18 30-45'	MW-19 57-67'	MW-20 59-69'	MW-21 30-40'	MW-22 71-81'	MW-23 67-77'	MW-24 71-81'	MW-25 30-40'
DTW	34368	30.08'	28.80'	29.70'	29.55'	34.55'	24.58'																			
	36891	35.82'	35.28'	35.74'	35.20'	35.32'	28.19'																			
	37185	37.41'	37.91'	38.19'	35.33'	NA	28.70'																			
	37210	NA	NA	NA	28.30'	28.80'	NA																			
	37302	30.2'	30.60'	37.30'	38.44'	30.32'	28.21'																			
	37421	37.62'	36.75'	38.19'	28.40'	NA	30.81'	30.68'																		
	37580	42.48'	43.86'	44.60'	28.10'	30.20'	34.11'	33.60'	34.70'																	
	37807	NA	43.19'	44.34'	35.20'	PP only	34.03'	33.62'	34.67'	32.83'	32.71'	33.30'	41.50'	43.08'	43.83'	33.90'	40.44'	38.08'	38.35'	41.11'	42.54'					
	37880	NA	41.07'	41.33'	36.30'	PP only	33.18'	32.81'	33.22'	32.44'	32.70'	33.07'	38.77'	40.58'	41.88'	32.01'	38.28'	38.38'	33.42'	34.09'	40.38'					
	37781	NA	38.58'	39.58'	28.38'	PP only	30.44'	30.65'	31.10'	30.41'	30.19'	31.08'	37.58'	39.20'	39.82'	29.90'	36.41'	33.19'	38.30'	37.05'	38.80'	38.80'	34.23'	37.73'	38.22'	36.7'
37873	NA	NA	NA	28.41'	PP only	NA	32.34'	34.30'	31.68'	31.84'	39.28'	42.18'	43.70'	44.18'	33.48'	40.89'	38.37'	33.29'	41.87'	42.08'	39.87'	38.55'	42.06'	44.35'	38.45'	
37864	NA	NA	NA	28.39'	PP only	NA	34.39'	35.80'	33.71'	33.73'	34.3'	45.12'	45.72'	46.84'	39.59'	43.47'	42.73'	38.65'	44.53'	45.44'	Dry	42.85'	45.69'	47.35'	36.8'	
Conductivity	37807	NA	2611	2688	NA	NA	2710	NA	2391	2871	2898	1872	1374	1864	1821	2108	1885	2818	6677	1807	1745					
	37880	NA	2654	1974	NA	NA	2788	NA	2325	4383	3769	1462	1802	1918	1918	2071	1862	2843	5813	1823	1885					
	37781	NA	1783	1981	NA	NA	2882	NA	2405	4436	3946	1102	1832	1871	1851	1931	1813	2602	6017	1785	1790	2500	1200	1300	1300	3000
	37873	NA	NA	NA	NA	NA	NA	NA	2440	3078	3880	1813	1804	2100	1845	2418	2330	3555	NS-PP	1986	1910	NS-NW	2286	1796	1893	NS-NW
	37864	NA	NA	NA	NA	NA	NA	NA	2888	2880	3070	1387	1893	1864	1927	NS-PP	1861	2574	NS-PP	2162	1848	NS-NW	NA	NA	NA	NS-NW
pH	37807	NA	6.83	6.82	NA	NA	6.78	NA	6.88	6.82	6.87	7.62	6.97	6.83	6.88	6.86	6.83	6.68	7.02	6.99	6.99					
	37880	NA	6.8	6.8	NA	NA	6.7	NA	6.7	6.7	6.8	7.1	7.5	7	7.5	6.8	7.2	6.8	6.9	7.3	7.6					
	37781	NA	6.9	6.7	NA	NA	6.8	NA	6.7	6.4	6.8	6.4	6.8	6.8	6.7	6.6	6.8	6.8	6.7	6.9	6.8	NA	NA	NA	NA	NA
	37873	NA	NA	NA	NA	NA	NA	NA	6.81	6.88	6.82	6.49	6.68	6.9	6.75	6.7	6.85	6.28	NS-PP	6.78	6.77	NS-NW	6.54	6.74	6.67	NS-NW
	37864	NA	NA	NA	NA	NA	NA	NA	6.8	6.8	6.7	7.4	6.9	7.1	7	NS-PP	7.1	6.4	NS-PP	7	6.8	NS-NW	NA	NA	NA	NS-NW
TPH-gas	34368	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					
	36891	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					
	37185	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					
	37210	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					
	37421	724000	14800	22500	NS-PP	NS-PP	8230	LOTE-01	22750	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					
	37580	63200	7570	28000	NS-PP	NS-PP	8800	62400	1750	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					
	37807	NA	6330	11400	NS-PP	NS-PP	6260	NS-PP	1630	68320	23200	6430	36	7130	338	3380	77	41700	107000	81	408					
	37880	NA	15800	12500	NS-PP	NS-PP	3270	NS-PP	2500	68700	24750	1730	<50	1480	270	5580	<50	89800	177000	82	748					
	37781	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2630	<50	<50	<50	26400
	37873	NA	NA	NA	NA	NA	NA	NA	1360	68800	30200	1300	108	88	238	1480	<50	44300	NA	<50	885	NS-NW	<50	<50	<50	68200
	37864	NA	NA	NA	NS-PP	NS-PP	NA	NS-PP	1280	77200	51620	5390	64	351	180	3388-08	<50	40000	3328-08	1080	2140	NS-NW	NA	NA	NA	NS-NW
DTW= Depth to Water. NA= Not Analyzed. NS-PP= Not Sampled Free Product present. NS-NW= Not Sampled Not Enough Water present. * Abandoned Well. Summary of Free Product Present																										

DTW= Depth to Water.
 NA= Not Analyzed.
 NS-PP= Not Sampled Free Product present.
 NS-NW= Not Sampled Not Enough Water present.
 * Abandoned Well.
 Sampled Free Product present

Table 2: Detected VOCs from Groundwater Baseline Results Using EPA Method 8260 (µg/L)

Table 3 (cont'd): Detected VOCs from Groundwater Sample Results using EPA Method 8260 (µg/L)																										
VOCs	Date	MW-1	MW-2	MW-3	MW-4	MW-5	MW-7	MW-8	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	MW-18	MW-19	MW-20	MW-21	MW-22	MW-23	MW-24	MW-25	
Chloroethene	Feb-02	<125	119	<100	NS-PP	NS-PP	17																			
	Jan-02	<250	<250	<125	NS-PP	NS-PP	<35	NS-PP	<100																	
	Oct-02	<250	<250	<100	NS-PP	NS-PP	<250	NS-PP	<35																	
	Dec-02	NA	<250	<250	NS-PP	NS-PP	<125	NS-PP	<35	<1,000	<125	<35	<125	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35		
	Mar-03	NA	<1,000	<250	NS-PP	NS-PP	249	NS-PP	<35	<1,000	990															
	Jun-03	NA	<1,000	<1,000	NS-PP	NS-PP	311	NS-PP	<35	5,000	780	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<100		
	Aug-03	NA	NA	NA	NS-PP	NS-PP	NA	NS-PP	<35	640	1,700														<100	
	Dec-03	NA	NA	NA	NS-PP	NS-PP	NA	NS-PP	<2	520	1,800	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2		
1,1-Dichloroethene	Feb-02	509	1,180	85	1410	2,280	2,130																			
	Jan-02	17,000	1,800	500	NS-PP	NS-PP	2,800																			
	Oct-02	8,100	1,800	1,000	NS-PP	NS-PP	2,870																			
	Feb-02	20,800	3,310	1,330	NS-PP	NS-PP	5,480																			
	Jun-02	15,800	2,700	1,310	NS-PP	NS-PP	4,130	NS-PP	1,310																	
	Oct-02	16,400	2,280	1,130	NS-PP	NS-PP	5,840	NS-PP	1,300																	
	Dec-02	NA	1,620	1,130	NS-PP	NS-PP	3,330	NS-PP	1,100	30,400	10,400	3,030	17.3	171	78.8	3,830	18	4,360	5,180	18.2	141					
	Mar-03	NA	2,140	1,710	NS-PP	NS-PP	3,750	NS-PP	1,230	41,800	48,800	1,800	8.4	180	117	3,130	3.0	6,700	5,110	15	378					
	Jun-03	NA	1,140	1,030	NS-PP	NS-PP	3,470	NS-PP	1,280	51,700	37,300	854	11.6	<2	107	3,380	8.0	9,820	8,840	47.8	888	1,200	<2	<2	531	
	Aug-03	NA	NA	NA	NS-PP	NS-PP	NA	NS-PP	1,030	47,400	33,000	808	<2	104	88	2,480	<2	7,040	NS-PP	26.8	1,870	NS-PP	<2	<2	1,870	
	Dec-03	NA	NA	NA	NS-PP	NS-PP	NA	NS-PP	<2	53,800	40,300	738	2.3	218	283	NS-PP	<2	6,440	NS-PP	130	2,300	NS-PP	Table 3	Table 3	Table 3	
	1,2-Dichloroethene	Feb-02	<100	<100	<80	<100	1120	31																		
Jan-02		<2,000	<200	<200	NS-PP	NS-PP	<200																			
Oct-02		<250	<30	<125	NS-PP	NS-PP	<1,000	<35																		
Feb-02		<125	<12.5	<100	NS-PP	NS-PP	41.4																			
Jun-02		<250	<250	<125	NS-PP	NS-PP	<20	NS-PP	<100																	
Oct-02		<250	<30	<20	NS-PP	NS-PP	<250	NS-PP	<35																	
Dec-02		NA	<250	<250	NS-PP	NS-PP	<125	NS-PP	<35	<3,000	<125	<28														
Mar-03		NA	<1,000	<500	NS-PP	NS-PP	<125	NS-PP	11.3	<1,000	228	<6	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10		
Jun-03	NA	<200	<250	NS-PP	NS-PP	<30	NS-PP	<20	<400	<400	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<100			
Aug-03	NA	NA	NA	NS-PP	NS-PP	NA	NS-PP	<2	<400	<400	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2			
Dec-03	NA	NA	NA	NS-PP	NS-PP	NA	NS-PP	<2	<400	<400	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2			
1,1-Dichloroethane	Feb-02	2,210	2,400	2,800	808	1,320	181																			
	Jan-02	3,000	<200	3,000	NS-PP	NS-PP	300																			
	Oct-02	1,200	1,120	3,000	NS-PP	NS-PP	417,000	308																		
	Feb-02	4,000	1,480	3,800	NS-PP	NS-PP	778																			
	Jun-02	4,000	2,580	2,580	NS-PP	NS-PP	10,400	20	NS-PP	1,440																
	Oct-02	3,800	2,100	778	NS-PP	NS-PP	249	NS-PP	1,800																	
	Dec-02	NA	2,280	131	NS-PP	NS-PP	539	NS-PP	1,480	2,840	3,480	194	38.8	142	83.4	1,680	16.8	6,620	17,700	25.6	207					
	Mar-03	NA	2,280	1,710	NS-PP	NS-PP	219	NS-PP	1,100	2,840	2,840	18.8	16.8	120	60.8	2,470	17.1	3,280	18,000	16.9	280					
	Jun-03	NA	1,480	2,870	NS-PP	NS-PP	844	NS-PP	1,380	3,970	1,480	38.3	44.2	263	124	3,600	18	4,810	24,300	308	738	154	<2	<2	3,840	
	Aug-03	NA	NA	NA	NS-PP	NS-PP	NA	NS-PP	1,620	1,780	1,000	14.6	27.2	274	96	2,870	14.2	4,380	NS-PP	48.7	1,820	NS-PP	<2	<2	5,860	
	Dec-03	NA	NA	NA	NS-PP	NS-PP	NA	NS-PP	31.9	2,730	1,810	7.8	10.8	876	234	NS-PP	7.8	4,170	NS-PP	48.8	1,860	NS-PP	Table 3	Table 3	Table 3	

Table 2 (cont.) VOCs from Groundwater Sources Results using EPA Method 8260 (ug/L)																											
VOCs	Date	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	MW-18	MW-19	MW-20	MW-21	MW-22	MW-23	MW-24	MW-25	MW-26
1,2-Dichloroethane	Feb-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Nov-00	20,000	8,500	8,700	NS-PP	NS-PP	210																				
	Oct-01	18,000	5,100	7,000	NS-NW	1,000,000	184																				
	Feb-02	20,100	11,100	8,900	NS-PP	NS-PP	298																				
	Jun-02	21,100	14,000	8,900	NS-PP	NS-PP	258																				
	Oct-02	20,700	10,000	212	NS-PP	NS-PP	311	NS-PP	798																		
	Dec-02	NA	11,800	885	NS-PP	NS-PP	268	NS-PP	890	25,300	8,700	180	48.5	604	335	975	35	18,100	11,800	8.3	324						
	Feb-03	NA	11,300	3,080	NS-PP	NS-PP	235	NS-PP	485	20,800	10,100	18.0	17.5	285	280	1,190	7.1	21,200	11,100	8.8	545						
	Jun-03	NA	2,770	8,220	NS-PP	NS-PP	214	NS-PP	352	24,000	8,740	24.8	40	5.8	817	1,000	2.3	23,800	15,000	7	1,080	3.90	<2	<2	<2	898	
	Sep-03	NA	NA	NA	NS-NW	NS-PP	NA	NS-PP	688	8,200	8,850	8	28.2	86	835	988	<2	18,000	NS-PP	4.8	2,280	NS-NW	8.7	<2	2.4	2,150	
	Dec-03	NA	NA	NA	NS-PP	NS-PP	NA	NS-PP	21.2	17,200	1,830	8.1	10.8	713	1,270	NS-PP	<2	14,800	NS-PP	20.7	4,420	NS-NW	Table 3	Table 3	Table 3	NS-NW	
1,2-Dichloroethene	Feb-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Nov-00	<2,000	<200	<200	NS-PP	NS-PP	<200																				
	Oct-01	<200	<20	<125	NS-NW	<1,000	<20																				
	Feb-02	<125	<12.5	<100	NS-PP	NS-PP	<10																				
	Jun-02	<200	<200	<125	NS-PP	NS-PP	<25	NS-PP	<100																		
	Oct-02	<100	<20	<20	NS-PP	NS-PP	<20	NS-PP	<20																		
	Dec-02	NA	<200	<200	NS-PP	NS-PP	<125	NS-PP	<25	<2,500	<125	<25	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<100	
	Feb-03	NA	<1,000	<800	NS-PP	NS-PP	<125	NS-PP	<25	<1,000	<200	<50	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<100
	Jun-03	NA	<200	<200	NS-PP	NS-PP	<25	NS-PP	<25	<200	<200	<10	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	NS-NW	Table 3	Table 3	Table 3	100
	Sep-03	NA	NA	NA	NS-NW	NS-PP	NA	NS-PP	<20	<200	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	NS-NW	Table 3	Table 3	Table 3	NS-NW
	Dec-03	NA	NA	NA	NS-PP	NS-PP	NA	NS-PP	<2	<200	<200	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	NS-NW	Table 3	Table 3	Table 3	NS-NW
1,4-Dioxane	Oct-02				NS-PP	NS-PP	NS-PP																				
	Dec-02	NA	<2,000	<2,000	NS-PP	NS-PP	11,800	NS-PP	8,540	<20,000	<2,800	<800	<100	<2,500	<1,200	18,500	<100	<10,000	<20,000	178	<200						
	Mar-03	NA	<10,000	<8,000	NS-PP	NS-PP	21,000	NS-PP	7,500	<10,000	<3,500	<280	<20	<25	<200	8,800	<20	<25,000	<25,000	112	<100						
	Jun-03	NA	<8,000	<10,000	NS-PP	NS-PP	22,500	NS-PP	19,000	<10,000	<280	<200	<20	<25	<200	12,000	<20	<10,000	<25,000	<125	<200	<200	<20	<20	<20	<2,000	
	Dec-03	NA	NA	NA	NS-NW	NS-PP	NA	NS-PP	1,800	<10,000	<1,200	<125	<20	<20	<100	<1,200	<20	<8,000	NS-PP	88	<250	NS-NW	Table 3	Table 3	Table 3	NS-NW	
Bryzanthene	Feb-01	883	1,750	118	1,150	1,810	28																				
	Nov-00	880	100	1,000	NS-PP	NS-PP	83																				
	Oct-01	802	197	1,880	NS-NW	2,200,000	107																				
	Feb-02	878	118	1,300	NS-PP	NS-PP	89.4																				
	Jun-02	1,480	197	1,670	NS-PP	NS-PP	104	NS-PP																			
	Oct-02	854	288	948	NS-PP	NS-PP	213	NS-PP																			
	Dec-02	NA	880	1,180	NS-PP	NS-PP	30	NS-PP																			
	Mar-03	NA	814	882	NS-PP	NS-PP	100	NS-PP																			
	Jun-03	NA	<100	720	NS-PP	NS-PP	88.3	NS-PP	<10	1,400	840	11.1	<1	<1	<2	<2	<1	1,010	2,270	<4.3	31	<10	<1	<1	<1	1,800	
	Sep-03	NA	NA	NA	NS-NW	NS-PP	NA	NS-PP	<10	1,300	1,010	82.2	<1	<1	<2	<2	<1	740	NS-PP	<1	<2	NS-NW	Table 3	Table 3	Table 3	2,000	
	Dec-03	NA	NA	NA	NS-PP	NS-PP	NA	NS-PP	<1	1,600	1,140	187	<1	<1	<2	<2	<1	860	NS-PP	<1	<2	NS-NW	Table 3	Table 3	Table 3	NS-NW	
Methylene Chloride	Feb-01	1,220	2,800	8,800	4,760	21,200	<85																				
	Nov-00	1,100	100	3,000	NS-PP	NS-PP	180																				
	Oct-01	<1,200	<200	<25	NS-NW	<3,000	<100																				
	Feb-02	<250	18.8	3,080	NS-PP	NS-PP	<20																				
	Jun-02	<250	<200	1,200	NS-PP	NS-PP	<20	NS-PP	<100																		
	Oct-02	<250	<20	<20	NS-PP	NS-PP	<20	NS-PP	<20																		
	Dec-02	NA	<250	<250	NS-PP	NS-PP	<125	NS-PP	<125	<2,500	<125	<25	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<100	
	Mar-03	NA	<1,000	1,180	NS-PP	NS-PP	<125	NS-PP	<125	<1,000	<200	<50	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	
	Jun-03	NA	<200	<200	NS-PP	NS-PP	<20	NS-PP	<20	<200	<200	<10	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	
	Sep-03	NA	NA	NA	NS-NW	NS-PP	NA	NS-PP	<20	<200	<200	<10	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	NS-NW	Table 3	Table 3	Table 3	18,000
	Dec-03	NA	NA	NA	NS-PP	NS-PP	NA	NS-PP	<20	<200	<200	<10	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	NS-NW	Table 3	Table 3	Table 3	18,000

Table 2 (cont.) Estimated VOCs from groundwater during the first 3 months of the 1994-1995 season (continued)

[illegible]

Table 2 (cont.) Detected VOCs from dechlorinated sample results using EPA Method 8260 (µg/L)

VOCs	Date	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	MW-18	MW-19	MW-20	MW-21	MW-22	MW-23	MW-24	MW-25
Chloroform	Feb-01	2,185	7,750	1,014	4,285	4,710	185																			
	Nov-01	3,400	<500	2,800	NS-PP	NS-PP	247																			
	Oct-01	3,770	<5	3,750	NS-PP	10,370,000	201																			
	Feb-02	3,780	14.8	3,070	NS-PP	NS-PP	280																			
	Jan-02	3,540	182	3,880	NS-PP	NS-PP	354	NS-PP	<50																	
	Oct-02	3,370	75	2,170	NS-PP	NS-PP	870	NS-PP	<5																	
	Dec-02	NA	385	2,550	NS-PP	NS-PP	121	NS-PP	<5	4,080	748	342	<1	1,780	<10	<50	<1	3,860	3,840	<1	<5					
	Mar-03	NA	318	2,150	NS-PP	NS-PP	818	NS-PP	<10	2,350	1030	28.1	<2	100	<20	<50	<2	3,890	3,880	<2	8.4					
	Jul-03	NA	170	1,750	NS-PP	NS-PP	228	NS-PP	<10	4,000	1,850	<5	<1	<1	<2.5	<25	<1	3,890	3,040	8.3	<1	<10	<1	<1	<1	1,000
	Apr-03	NA	NA	NA	NS-PP	NS-PP	NA	NS-PP	<10	4,250	1,350	<5	<1	<1	<2	<25	<1	2,630	NS-PP	<1	30	NS-PP	<1	<1	<1	8,770
	Dec-03	NA	NA	NA	NS-PP	NS-PP	NA	NS-PP	<1	4,000	2,000	167	<1	<2	<2.5	NS-PP	<1	2,610	NS-PP	22	81.8	NS-PP	Table 3	Table 3	Table 3	Table 3

NA= Not Analyzed.
 NS-PP= Not Detected (No Product Present)
 NS-PP= Not Detected (Not enough Vapor present)
 * = Absorbed Vial
 * = Analysis of Vial Product
 Blue= Chemicals stored on-site
 Red= Transformation compounds

Table 3: Detected VOCs from Diffusion Bag Groundwater Samples using EPA Method 8260 (µg/L)						
	Date	Depth	MW-23 71'-81'	MW-24 67'-77'	MW-25 71'-81'	
Screened Interval (bg)						
DTW	15-Dec-03		42.65'	45.69'	47.35'	
VOCs						
Acetone	15-Dec-03	1.5'	<25	<25	<25	
		7.5'	<25	<25	<25	
Benzene	15-Dec-03	1.5'	<1	<1	<1	
		7.5'	<1	<1	<1	
2-Butanone (MEK)	15-Dec-03	1.5'	<25	<25	<25	
		7.5'	<25	<25	<25	
Chloroethane	15-Dec-03	1.5'	<2	<2	<2	
		7.5'	<2	<2	<2	
1,1-Dichloroethane	15-Dec-03	1.5'	<2	<2	<2	
		7.5'	<2	<2	<2	
1,2-Dichloroethane	15-Dec-03	1.5'	<2	<2	<2	
		7.5'	<2	<2	<2	
1,1-Dichloroethane	15-Dec-03	1.5'	6.1	<2	6.2	
		7.5'	6	14.6	7.4	
cis 1,2-Dichloroethene	15-Dec-03	1.5'	<2	5.7	<2	
		7.5'	2.4	8.8	3.4	
trans 1,2-Dichloroethene	15-Dec-03	1.5'	<2	<2	<2	
		7.5'	<2	<2	<2	
1,4 Dioxane	15-Dec-03	1.5'	<50	<50	<50	
		7.5'	<50	<50	<50	
Ethylbenzene	15-Dec-03	1.5'	<1	<1	<1	
		7.5'	<1	<1	<1	
Methylene Chloride	15-Dec-03	1.5'	<2	<2	<2	
		7.5'	<2	<2	<2	
4-Methyl-2-pentanone	15-Dec-03	1.5'	<25	<25	<25	
		7.5'	<25	<25	<25	
Naphthalene	15-Dec-03	1.5'	<2	<2	<2	
		7.5'	<2	<2	<2	

Table 3 (cont.): Detected VOCs from Diffusion Bag Groundwater Samples using EPA Method 8260 (µg/L)

	Date	Depth	MW-23	MW-24	MW-25
VOCs					
n-Propylbenzene	15-Dec-03	1.5'	<2	<2	<2
		7.5'	<2	<2	<2
Tetrachloroethene	15-Dec-03	1.5'	14.8	24.3	37.2
		7.5'	30.6	75.4	37.1
1,1,1-Trichloroethane	15-Dec-03	1.5'	2.6	<2	<2
		7.5'	3.2	2.3	<2
Trichloroethene	15-Dec-03	1.5'	7.9	49.3	39.4
		7.5'	11.3	51.4	38.5
1,2,4-Trimethylbenzene	15-Dec-03	1.5'	<2	<2	<2
		7.5'	<2	<2	<2
1,3,5-Trimethylbenzene	15-Dec-03	1.5'	<2	<2	<2
		7.5'	<2	<2	<2
Toluene	15-Dec-03	1.5'	<1	<1	<1
		7.5'	<1	<1	<1
Vinyl Chloride	15-Dec-03	1.5'	<2	<2	<2
		7.5'	<2	<2	<2
Xylenes	15-Dec-03	1.5'	<1	<1	<1
		7.5'	<1	<1	<1
DTW= Depth to Water.					
Depth= Depth below measured groundwater.					
Blue= Chemicals stored on-site.					
Red= Transformation compounds.					

Table 4. Results for EPA Methods 376.1, 376.3, 376.1, 376.4, 7360, 7460, 186.1, Colorimetry and Standard Method 4500 (mg/L)

Concomitant	Date	MW-2	MW-3	MW-7	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	MW-18	MW-19	MW-20	MW-21	MW-22	MW-23	MW-24	MW-25	MW-26	MW-28
Optical Oxygen Carbon	Dec-03	NA	NA	NA	12	158	100	3	1.5	2.9	2.4	NA	0.9	100	NA	2.2	3.4	NA	NA	NA	NA	NA	NA
Total Organic Carbon	Dec-03	NA	NA	NA	13	225	105	3.7	1.9	3.1	2.6	NA	1.2	110	NA	2.6	3.7	NA	NA	NA	NA	NA	NA
TDS	Jun-03	1,180	1,220	1,350	1,840	1,870	2,330	838	1,200	1,450	1,830	1,080	1,480	1,720	4,500	1,200	1,250						
	Sep-03	NA	NA	NA	1,800	2,330	1,838	735	1,185	1,265	1,185	1,030	1,275	1,655	NA	1,235	1,285	838	775	875	1,440		
	Dec-03	NA	NA	NA	1,290	1,840	1,890	730	1,180	1,140	1,280	NA	1,170	1,520	NA	1,200	1,170	NA	NA	NA	NA	NA	NA
Total Alkalinity	Jun-03	480	840	898	528	898	890	200	430	435	455	805	480	1,025	1,435	455	472						
	Sep-03	NA	NA	NA	545	860	825	100	475	370	448	600	475	865	NA	483	480	235	285	380	670		
	Dec-03	NA	NA	NA	540	880	915	340	435	360	465	NA	430	920	NA	470	530	NA	NA	NA	NA	NA	NA
Carbonate/bicarbonate	Jun-03	352	758	1,080	612	1,122	1,132	348	816	818	848	728	582	1,290	1,710	810	867						
	Sep-03	NA	NA	NA	684	804	1,176	489	507	444	507	720	570	1,148	NA	519	562	282	306	420	604		
	Dec-03	NA	NA	NA	324	653	847	204	281	210	270	NA	285	862	NA	287	316	NA	NA	NA	NA	NA	NA
Chloride	Jun-03	88.3	227	290	241	383	426	70.8	101	82.2	95	227	84.3	284	1,190	87.8	87.9						
	Sep-03	NA	NA	NA	241	310	383	87	99	142	108	260	170	298	NA	92	142	71	74	85	328		
	Dec-03	NA	NA	NA	238	362	344	74.4	105	180	113	NA	108	96.3	NA	96.3	138	NA	NA	NA	NA	NA	NA
Sulfate	Jun-03	<0.02	1.8	0.84	<0.02	0.8	3.88	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.48	1.82	<0.02	<0.02						
	Sep-03	NA	NA	NA	<0.05	5.12	2.56	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	1.82	NA	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	16.8
	Dec-03	NA	NA	NA	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	<0.05	<0.05	NA	<0.05	<0.05	NA	NA	NA	NA	NA	NA
Sulfate	Jun-03	83.2	32.6	15	284	5.67	7.9	106	214	152	279	104	206	26.3	8.74	178	182						
	Sep-03	NA	NA	NA	250	96	28	85	330	235	285	70	216	58	NA	215	230	118	184	210	80		
	Dec-03	NA	NA	NA	753	19.3	19	47	633	350	287	NA	287	82.6	NA	501	287	NA	NA	NA	NA	NA	NA
Nitrate	Jun-03	22.8	<0.01	1.18	18.4	1.88	8.81	<0.01	27.6	28.1	26.7	2.87	27.8	2.83	0.77	24.2	23.8						
	Sep-03	NA	NA	NA	0.138	<0.01	<0.01	<0.01	0.027	0.012	0.028	<0.01	<0.01	<0.01	NA	0.17	0.019	0.177	<0.01	<0.01	<0.01	<0.01	<0.01
	Dec-03	NA	NA	NA	25.5	5.21	3.86	1.16	17.4	21.8	24.2	NA	20.1	1.14	NA	21.4	22.6	NA	NA	NA	NA	NA	NA
Total Iron	Jun-03	<0.1	0.2	1	<0.1	0.3	10.7	0.16	0.14	<0.1	0.2	<0.1	0.43	0.8	0.8	0.23	<0.1						
	Sep-03	NA	NA	NA	<0.05	62.3	18.7	0.41	<0.05	<0.05	<0.05	<0.05	0.28	14.4	NA	<0.05	<0.05	<0.05	0.1	<0.05	0.44		
	Dec-03	NA	NA	NA	0.36	31.7	30.6	3.85	0.18	0.14	0.38	NA	0.36	63.1	NA	0.24	1.2	NA	NA	NA	NA	NA	NA
Ferrous Iron	Jun-03	<0.05	<0.05	<0.05	<0.05	<0.05	5.49	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05						
	Sep-03	NA	NA	NA	<0.05	3.3	5.96	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	4.85	FP	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Dec-03	NA	NA	NA	0.19	7.43	2.32	0.73	0.16	0.21	0.21	NA	0.22	1.88	NA	0.14	0.17	NA	NA	NA	NA	NA	NA
Manganese	Jun-03	<0.1	2.1	0.07	<0.1	1.46	6.7	1.6	<0.1	<0.1	0.4	0.6	<0.1	0.84	1.77	<0.1	0.43						
	Sep-03	NA	NA	NA	0.07	8.24	12.5	2.49	0.88	0.42	0.4	1.06	<0.05	7	NA	0.12	0.84	<0.05	0.07	0.06	5.21		
	Dec-03	NA	NA	NA	0.16	6.1	13.8	1.47	0.22	1.02	1.14	NA	0.23	6.94	NA	0.12	1.86	NA	NA	NA	NA	NA	NA

Appendices

A

WELL GAUGING DATA

Project # 031209-ZM1 Date 12/9/03 Client Blakely Env.Site 8915 Sorensen Ave. Santa Fe Springs

Well ID	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC
MW-4	4		26.35	0.04		26.39	—	
MW-6	4	odor	30.21	0.08		—	30.29	
MW-8	4		33.89	0.66		34.55	—	
MW-9	4					36.96	45.81	
MW-10	4					33.71	40.62	
MW-11	2					33.73	39.85	
MW-12	2					34.30	46.06	
MW-13	2					45.12	62.47	
MW-14	2					46.72	65.19	
MW-15	2					46.84	64.64	
MW-16	2		36.08	0.77		36.85	—	
MW-17	2					43.47	66.47	
MW-18	2					42.73	46.17	
MW-19	2		34.00	4.65		38.65	—	
MW-20	2					44.53	67.60	
MW-21	2					45.44	63.25	
MW-22	2					Dry	40.15	↓

WELL GAUGING DATA

Project # 031209-2M1 Date 12/9/03 Client Blakely Env.

Site 8915 Sorensen Ave Santa Fe Springs

[illegible]

WELL MONITORING DATA SHEET

Project #: 03/209-ZM1	Client: Blakey Env
Sampler: ZM	Date: 12/9/03
Well I.D.: MW-4	Well Diameter: 2 3 ④ 6 8
Total Well Depth (TD): —	Depth to Water (DTW): 26.39
Depth to Free Product: 26.35	Thickness of Free Product (feet): 0.04
Referenced to: PVO Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]:	

Purge Method: Bailer Water Sampling Method: Bailer
 Disposable Bailer Peristaltic Disposable Bailer
 Positive Air Displacement Extraction Pump Extraction Port
 Electric Submersible Other _____ Dedicated Tubing
 Other: _____

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius ² * 0.163

(Gals.) X _____ = _____ Gals.
 1 Case Volume Specified Volumes Calculated Volume

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
	—	SPH	detected w/ interface probe	—	—	—
	—	No	sample taken	—	—	—

Did well dewater? Yes No Gallons actually evacuated: _____

Sampling Date: _____ Sampling Time: _____ Depth to Water: _____

Sample I.D.: _____ Laboratory: _____

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: _____

EB I.D. (if applicable): _____ @ _____ Time Duplicate I.D. (if applicable): _____

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: _____

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: 031209-ZM1	Client: Blakey Env
Sampler: ZM	Date: 12/9/03
Well I.D.: MW-6	Well Diameter: 2 3 ④ 6 8
Total Well Depth (TD): 30.87 30.21	Depth to Water (DTW):
Depth to Free Product: 30.21	Thickness of Free Product (feet): 0.08
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]:	

Purge Method: Bailer ☒ Water ☐
 Disposable Bailer ☐ Peristaltic ☐
 Positive Air Displacement ☐ Extraction Pump ☐
 Electric Submersible ☐ Other ☐

Sampling Method: Bailer ☐
 Disposable Bailer ☐
 Extraction Port ☐
 Dedicated Tubing ☐
 Other: ☐

(Gals.) X	=	Gals.	Well Diameter	Multiplier	Well Diameter	Multiplier
1 Case Volume	Specified Volumes	Calculated Volume	1"	0.04	4"	0.65
			2"	0.16	6"	1.47
			3"	0.37	Other	radius ² * 0.163

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
						SPH detected w/ interface probe
						No sample taken

Did well dewater? Yes No	Gallons actually evacuated:
Sampling Date:	Sampling Time: Depth to Water:
Sample I.D.:	Laboratory:
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:	
EB I.D. (if applicable): @ Time	Duplicate I.D. (if applicable):
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:	
D.O. (if req'd): Pre-purge: mg/L	Post-purge: mg/L
O.R.P. (if req'd): Pre-purge: mV	Post-purge: mV

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WELL MONITORING DATA SHEET

Project #: 03/209-ZM1	Client: Blakey Env
Sampler: ZM	Date: 12/9/03
Well I.D.: MW-8	Well Diameter: 2 3 ④ 6 8
Total Well Depth (TD): 5	Depth to Water (DTW): 34.55
Depth to Free Product: 33.89	Thickness of Free Product (feet): 0.66
Referenced to: PVC Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]:	

Purge Method: Bailer Water Peristaltic Extraction Pump Sampling Method: Bailer Disposable Bailer Extraction Port Dedicated Taping
 Disposable Bailer
 Positive Air Displacement
 Electric Submersible Other:

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius ² * 0.163

(Gals.) X = Gals.
 Case Volume Specified Volumes Calculated Volume

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
		5PH	detected	at interface probe		
		No	sample	taken		

Did well dewater? Yes No Gallons actually evacuated:

Sampling Date: Sampling Time: Depth to Water:

Sample I.D.: Laboratory:

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

EB I.D. (if applicable): @ Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd): Pre-purge: mg/L Post-purge: mg/L

O.R.P. (if req'd): Pre-purge: mV Post-purge: mV

WELL MONITORING DATA SHEET

Project #: 03/209-ZM1	Client: Blakey Env
Sampler: ZM	Date: 12/9/03
Well I.D.: MW-9	Well Diameter: 2 3 ④ 6 8
Total Well Depth (TD): 45.81	Depth to Water (DTW): 36.96 (12/10/03) 36.90
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>VC</u> Grade	D.O. Meter (if req'd): <u>YS 536</u> HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 38.73	

Purge Method: Bailer Waterra Sampling Method: Bailer
 Disposable Bailer Peristaltic Disposable Bailer
 Positive Air Displacement Extraction Pump Extraction Port
 Electric Submersible Other: 2 Rediflo Dedicated Tubing

Other:

Start @ 0942 @ 1 1/2 gpm

5.7 (Gals.) X 3 = 17.1 Gals.
 1 Case Volume Specified Volumes Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius ² * 0.163

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
0946	22.9	6.7	2568	22	6	D.O. 0.15 ORP -2.0
0950	22.9	6.8	2574	5	12	0.11 -4.6
0954 well dewatered @ 16 gal ——— DTW 43.90						
1331	69.3°F	6.9	2585	9	———	160

Did well dewater? Yes No Gallons actually evacuated: 18

Sampling Date: 12/10/03 Sampling Time: 1331 Depth to Water: 37.91

Sample I.D.: MW-9 Laboratory: STS

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

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WELL MONITORING DATA SHEET

Project #: 03/209-ZM1	Client: Blakey Env
Sampler: ZM	Date: 12/9/03
Well I.D.: MW-10	Well Diameter: 2 3 ④ 6 8
Total Well Depth (TD): 40.62	Depth to Water (DTW): 33.71 (12/10/03 33.74)
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (VC) Grade	D.O. Meter (if req'd): RS 556 HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 35.09	

Purge Method: Bailer Waterwa Sampling Method: Bailer
 Disposable Bailer Peristaltic Disposable Bailer
 Positive Air Displacement Extraction Pump Extraction Port
 Electric Submersible Other 2" Redi-flow Dedicated Tubing

Other:

Start @ 1257 @ 1 1/2 gpm
 4.4 (Gals.) X 3 = 13.2 Gals.
 1 Case Volume Specified Volumes Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius ² * 0.163

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1300	23.1	6.6	2718	5	5	NO CRP 0.19 -54.2
1303	23.1	6.6	2852	3	10	0.14 -60.9
1306	23.3	6.6	2850	2	14	0.12 -63.0

Did well dewater? Yes (No) Gallons actually evacuated: 14

Sampling Date: 12/10/03 Sampling Time: 1507 Depth to Water: 35.55 (72hr.)

Sample I.D.: MW-10 Laboratory: STS

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

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WELL MONITORING DATA SHEET

Project #: 031209-ZM1	Client: Blakey Env
Sampler: ZM	Date: 12/9/03
Well I.D.: MW-11	Well Diameter: 2 3 4 6 8
Total Well Depth (TD): 39.85	Depth to Water (DTW): 33.73 (12/10/03 33.65)
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	D.O. Meter (if req'd): YS 556 HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 35.01	

Purge Method: Bailer Water Sampling Method: Bailer
 Disposable Bailer Peristaltic Disposable Bailer
 Positive Air Displacement Extraction Pump Extraction Port
 Electric Submersible Other 2" Redi-Flow Dedicated Tubing

Other:

Start @ 1224 @ 1 gpm

0.9 (Gals.) X 3 = 2.7 Gals.	Well Diameter	Multiplier	Well Diameter	Multiplier
1 Case Volume	1"	0.04	4"	0.65
Specified Volumes	2"	0.16	6"	1.47
Calculated Volume	3"	0.37	Other	radius ² * 0.163

Time	Temp (F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations	
1225	23.1	6.7	2832	19	1	DO. 0.17	ORP -54.5
1226	23.3	6.7	2938	11	2	0.20	-67.0
1227	23.5	6.7	3070	7	3	0.15	-73.9

* Strong odor

Did well dewater? Yes ☒ No Gallons actually evacuated: 3

Sampling Date: 12/10/03 Sampling Time: 1237 Depth to Water: 34.39

Sample I.D.: MW-11 Laboratory: STS

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: 031209-ZM1	Client: Blakey Env
Sampler: ZM	Date: 12/9/03
Well I.D.: MW-12	Well Diameter: ② 3 4 6 8
Total Well Depth (TD): 46.06	Depth to Water (DTW): 34.30 (70/9/03 35.39)
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>EV8</u> Grade	D.O. Meter (if req'd): <u>YS 556</u> HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 36.65	

Purge Method: Bailer Watera Sampling Method: Bailer
 Disposable Bailer Peristaltic ~~Disposable Bailer~~
 Positive Air Displacement Extraction Pump Extraction Port
 Electric Submersible Other 2" Redi-Flt Dedicated Tubing

Other:

Start @ 1455 @ 3/4 gpm

1.8 (Gals.) X 3 = 5.4 Gals.
 1 Case Volume Specified Volumes Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius ² * 0.163

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1457	23.3	7.2	1385	2100	2	P.O. 0.12 -72.3
1459	23.5	7.3	1387	18	4	0.08 -75.2
1501	23.6	7.4	1387	19	6	0.10 -73.0

Did well dewater? Yes No Gallons actually evacuated: 6
 Sampling Date: 12/9/03 Sampling Time: 1511 Depth to Water: 34.42

Sample I.D.: MW-12 Laboratory: STS

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: 031209-ZM1	Client: Blakey Env
Sampler: ZM	Date: 12/9/03
Well I.D.: MW-13	Well Diameter: <u>2</u> 3 4 6 8
Total Well Depth (TD): 62.47	Depth to Water (DTW): 45.12 (12/10/03 45.18)
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVO</u> Grade	D.O. Meter (if req'd): <u>YS 556</u> HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 48.59	

Purge Method: Bailer Watera Sampling Method: Bailer
 Disposable Bailer Peristaltic ~~Disposable Bailer~~
 Positive Air Displacement Extraction Pump Extraction Port
 Electric Submersible Other 2" Radi-fl Dedicated Tubing

Start @ 0904 @ 1gpm

2.7 (Gals.) X 3 = 8.1 Gals.
 1 Case Volume Specified Volumes Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius ² * 0.163

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations	
0907	22.8	6.9	1952	>1000	3	D.O. 3.21	ORP -2.8
0910	22.9	6.9	1954	857	6	3.23	-5.9
0912	22.9	6.9	1953	543	8.5	3.21	-1.1

Did well dewater? Yes NO Gallons actually evacuated: 8.5

Sampling Date: 12/10/03 Sampling Time: 0921 Depth to Water: 45.29

Sample I.D.: MW-13 Laboratory: STS

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: 03/209-ZM1	Client: Blakey Env
Sampler: ZM	Date: 12/9/03
Well I.D.: MW-14	Well Diameter: ② 3 4 6 8
Total Well Depth (TD): 65.19	Depth to Water (DTW): 46.72 (12/9/03 46.69)
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	D.O. Meter (if req'd): YS56 HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 50.41	

Purge Method: Bailer Waterwa Sampling Method: Bailer
 Disposable Bailer Peristaltic Disposable Bailer
 Positive Air Displacement Extraction Pump Extraction Port
 Electric Submersible Other 2" Redi-Flow Dedicated Tubing

Other:

Start @ 1408 @ 1gpm

2.9 (Gals.) X 3 = 8.7 Gals.
 Case Volume Specified Volumes Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius ² * 0.163

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1411	22.9	7.1	1940	254	3	0.0. ORP -68.2
1414	23.0	7.1	1964	98	6	3.29 -61.9
1417	23.0	7.1	1984	65	9	3.29 -59.4

Did well dewater? Yes (No) Gallons actually evacuated: 9

Sampling Date: 12/9/03 Sampling Time: 1425 Depth to Water: 46.75

Sample I.D.: MW-14 Laboratory: STS

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable): MW-1 @ 1435

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

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WELL MONITORING DATA SHEET

Project #: 03/209-ZM1	Client: Blakey Env
Sampler: ZM	Date: 12/9/03
Well I.D.: MW-15	Well Diameter: ② 3 4 6 8
Total Well Depth (TD): 64.64	Depth to Water (DTW): 46.84 ^(12.4-03) (47.12)
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVO Grade	D.O. Meter (if req'd): YSI 85C HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 50.40	

Purge Method: Bailer Water Sampling Method: Bailer
 Disposable Bailer Peristaltic Disposable Bailer
 Positive Air Displacement Extraction Pump Extraction Port
 Electric Submersible Other: ~~2 Redi-Pole~~ Dedicated Tubing

Start @ 1317 @ 1gpm

2.8 (Gals.) X 3 = 8.4 Gals.
 1 Case Volume Specified Volumes Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius ² * 0.163

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1320	23.3	7.1	1929	311	3	0.024 ORP -140.6
1323	23.4	7.0	1928	64	6	0.53 -154.6
1326	23.4	7.0	1927	21	9	0.65 -166.4

Did well dewater? Yes ~~NO~~ Gallons actually evacuated: 9

Sampling Date: 12/9/03 Sampling Time: 1335 Depth to Water: 47.39

Sample I.D.: MW-15 Laboratory: STS

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

EB I.D. (if applicable): @ time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd): Pre-purge: mg/L Post-purge: mg/L

O.R.P. (if req'd): Pre-purge: mV Post-purge: mV

WELL MONITORING DATA SHEET

Project #: 031209-ZM1	Client: Blakey Env
Sampler: ZM	Date: 12/9/03
Well I.D.: MW-16	Well Diameter: ② 3 4 6 8
Total Well Depth (TD): —	Depth to Water (DTW): 36.85
Depth to Free Product: 36.08	Thickness of Free Product (feet): 0.77
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]:	

Purge Method: Bailer Waterwa Sampling Method: Bailer
 Disposable Bailer Peristaltic Disposable Bailer
 Positive Air Displacement Extraction Pump Extraction Port
 Electric Submersible Other Dedicated Tubing
 Other:

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius ² * 0.163

(Gals.) X — = — Gals.
 1 Case Volume Specified Volumes Calculated Volume

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
		5.84				detected w/ interface probe
		No sample taken				

Did well dewater? Yes No	Gallons actually evacuated:
Sampling Date:	Sampling Time: Depth to Water:
Sample I.D.:	Laboratory:
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (S) Other:	
EB I.D. (if applicable): @ Time	Duplicate I.D. (if applicable):
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (S) Other:	
D.O. (if req'd): Pre-purge: mg/L	Post-purge: mg/L
O.R.P. (if req'd): Pre-purge: mV	Post-purge: mV

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WELL MONITORING DATA SHEET

Project #: 031209-ZM1	Client: Blakey Env
Sampler: ZM	Date: 12/9/03
Well I.D.: MW-17	Well Diameter: 2 3 4 6 8
Total Well Depth (TD): 66.47	Depth to Water (DTW): 43.47 (12/9/03) (43.84)
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	D.O. Meter (if req'd): YSI 556 HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 48.07	

Purge Method: Bailer Water Sampling Method: Bailer
 Disposable Bailer Peristaltic Disposable Bailer
 Positive Air Displacement Extraction Pump Extraction Port
 Electric Submersible Other 2" Redi-Flow Dedicated Tubing

Other:

Start @ 1110 @ 1 gpm

3.6 (Gals.) X 3 = 10.8 Gals.
 1 Case Volume Specified Volumes Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius ² * 0.163

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1114	23.3	7.1	1984	454	4	DO. 3.12 ORP 74.2
1118	23.4	7.1	1981	82	8	3.14 71.7
1121	23.4	7.1	1981	32	11	2.21 70.5

Did well dewater? Yes (X) No Gallons actually evacuated: 11

Sampling Date: 12/9/03 Sampling Time: 1131 Depth to Water: 47.93

Sample I.D.: MW-17 Laboratory: STS

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: 03/209-ZM1	Client: Blakey Env
Sampler: ZM	Date: 12/9/03
Well I.D.: MW-18	Well Diameter: (2) 3 4 6 8
Total Well Depth (TD): 46.17	Depth to Water (DTW): 42.73 (12/10/03 42.75)
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): 79556 HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 43.41	

Purge Method:	Bailer	Water	Sampling Method:	Bailer
	Disposable Bailer	Peristaltic		<u>Disposable Bailer</u>
	Positive Air Displacement	Extraction Pump		Extraction Port
	Electric Submersible	Other <i>Redi-Flow</i>		Dedicated Tubing

Start 1106 @ $\frac{1}{4}$ gpm

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius ² * 0.163

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations	
1107	23.7	6.4	2664	800	.5	D.O. 0.39	ORP -66.8
1109	23.9	6.3	2674	237	1.0	0.34	-73.7
1111	24.0	6.4	2674	230	1.5	0.32	-77.9
		* Strong odor					

Did well dewater? Yes No Gallons actually evacuated: 1.5

Sampling Date: 12/16/03 Sampling Time: 1125 Depth to Water: 43.41

Sample I.D.: MW-18 Laboratory: STS

Analyzed for:	TPH-G	BTEX	MTBE	TPH-D	Oxygenates (5)	Other:
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EB I.D. (if applicable): _____ @ _____ Time Duplicate I.D. (if applicable): _____

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
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O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV
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WELL MONITORING DATA SHEET

Project #: 03/209-ZM1	Client: Blakey Env
Sampler: ZM	Date: 12/9/03
Well I.D.: MW-19	Well Diameter: ② 3 4 6 8
Total Well Depth (TD):	Depth to Water (DTW): 38.65
Depth to Free Product: 34.00	Thickness of Free Product (feet): 4.65
Referenced to: PVD Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]:	

Purge Method: Bailer Waterwa Sampling Method: Bailer
 Disposable Bailer Peristaltic Disposable Bailer
 Positive Air Displacement Extraction Pump Extraction Port
 Electric Submersible Other Dedicated Tubing

Other:

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius ² * 0.163

(Gals.) X = Gals.
 1 Case Volume Specified Volumes Calculated Volume

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
		SPH	detected w/ interface probe			
		No	sample taken			

Did well dewater? Yes No	Gallons actually evacuated:
Sampling Date:	Sampling Time: Depth to Water:
Sample I.D.:	Laboratory:
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:	
EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):	
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:	
D.O. (if req'd): Pre-purge: mg/L Post-purge: mg/L	
O.R.P. (if req'd): Pre-purge: mV Post-purge: mV	

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WELL MONITORING DATA SHEET

Project #: 031209-ZM1	Client: Blakey Env
Sampler: ZM	Date: 12/9/03
Well I.D.: MW-20	Well Diameter: (2) 3 4 6 8
Total Well Depth (TD): 67.60	Depth to Water (DTW): 44.53 (18/9/03 44.64)
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVO) Grade	D.O. Meter (if req'd): (YS) 556 HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 49.14	

Purge Method: Bailer Water Sampling Method: Bailer
 Disposable Bailer Peristaltic Disposable Bailer
 Positive Air Displacement Extraction Pump Extraction Port
 Electric Submersible Other 2" Medi Flo Dedicated Tubing

Other:

Start @ 1201 @ 1gpm

3.6 (Gals.) X 3 = 10.8 Gals.
 1 Case Volume Specified Volumes Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius ² * 0.163

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations	
1205	23.2	6.9	2206	533	4	11.0	ORP 67.0
1209	23.3	6.9	2198	241	8	2.66	62.2
1212	23.3	7.0	2192	95	11	3.00	58.0

Did well dewater? Yes (No) Gallons actually evacuated: 11

Sampling Date: 12/9/03 Sampling Time: 1222 Depth to Water: 44.80

Sample I.D.: MW-20 Laboratory: ETS

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

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WELL MONITORING DATA SHEET

Project #: 031209-ZM1	Client: Blakey Env
Sampler: ZM	Date: 12/9/03
Well I.D.: MW-21	Well Diameter: ② 3 4 6 8
Total Well Depth (TD): 63.25	Depth to Water (DTW): 45.44 (45.84) ^{12/10/03}
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	D.O. Meter (if req'd): YS 556 HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 49.00	

Purge Method: Bailer Waterra Sampling Method: Bailer
 Disposable Bailer Peristaltic Disposable Bailer
 Positive Air Displacement Extraction Pump Extraction Port
 Electric Submersible Other 2" Redi-Flow Dedicated Tubing

Other:

Start @ 1024 @ 1 gpm

2.8 (Gals.) X 3 = 8.4 Gals.
 1 Case Volume Specified Volumes Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius ² * 0.163

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1027	22.8	6.9	1905	362	3	P.O. ORP 1.48 0.4
1030	22.9	6.8	1880	75	6	2.34 -7.0
1032	22.9	6.8	1868	60	8.5	2.54 -7.5

Did well dewater? Yes ☒ No Gallons actually evacuated: 8.5

Sampling Date: 12/10/03 Sampling Time: 1040 Depth to Water: 46.30

Sample I.D.: MW-21 Laboratory: STS

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable): MW-2 @ 1050

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

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WELL MONITORING DATA SHEET

Project #: 031209-ZM1	Client: Blakey Env
Sampler: ZM	Date: 12/9/03
Well I.D.: MW-22	Well Diameter: 2 3 4 6 8
Total Well Depth (TD): 40.15	Depth to Water (DTW): Dry
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]:	

Purge Method: ~~Bailer~~ ~~Disposable Bailer~~ ~~Positive Air Displacement~~ ~~Electric Submersible~~ Waterra ~~Peristaltic~~ ~~Extraction Pump~~ Other _____

Sampling Method: ~~Bailer~~ ~~Disposable Bailer~~ ~~Extraction Port~~ ~~Dedicated Tubing~~ Other: _____

(Gals.) X _____ = _____ Gals.
1 Case Volume Specified Volumes Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius ² * 0.163

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
		Well was		dry		
		No	sample	taken		

Did well dewater? Yes No	Gallons actually evacuated:
Sampling Date:	Sampling Time: Depth to Water:
Sample I.D.:	Laboratory:
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:	
EB I.D. (if applicable): @ Time	Duplicate I.D. (if applicable):
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:	
D.O. (if req'd): Pre-purge: mg/L	Post-purge: mg/L
O.R.P. (if req'd): Pre-purge: mV	Post-purge: mV

WELL MONITORING DATA SHEET

Project #: 03/209-ZM1	Client: Blakey Env
Sampler: ZM	Date: 12/9/03
Well I.D.: MW-23	Well Diameter: 2 3 ④ 6 8
Total Well Depth (TD):	Depth to Water (DTW): 42.65
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]:	

Purge Method: Bailer Waterria Sampling Method: Bailer
 Disposable Bailer Peristaltic Disposable Bailer
 Positive Air Displacement Extraction Pump Extraction Port
 Electric Submersible Other Dedicated Tubing

Other:

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius ² * 0.163

(Gals.) X	=	Gals.
1 Case Volume	Specified Volumes	Calculated Volume

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
						Gauge only
						No sample taken

Did well dewater? Yes No Gallons actually evacuated:

Sampling Date: Sampling Time: Depth to Water:

Sample I.D.: Laboratory:

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

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WELL MONITORING DATA SHEET

Project #: 03/209-ZM1	Client: Blakey Env
Sampler: ZM	Date: 12/9/03
Well I.D.: MW-24	Well Diameter: 2 3 ④ 6 8
Total Well Depth (TD):	Depth to Water (DTW): 45.69
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]:	

Purge Method: ~~Bailer~~ ~~Disposable Bailer~~ ~~Positive Air Displacement~~ ~~Electric Submersible~~ ~~Water~~ ~~Peristaltic~~ ~~Extraction Pump~~ ~~Other~~

Sampling Method: ~~Bailer~~ ~~Disposable Bailer~~ ~~Extraction Port~~ ~~Dedicated Tubing~~ ~~Other:~~

(Gals.) X _____ = _____ Gals.
 1 Case Volume Specified Volumes Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius ² * 0.163

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
		Gauge only				
		No sample taken				

Did well dewater? Yes No Gallons actually evacuated:

Sampling Date: Sampling Time: Depth to Water:

Sample I.D.: Laboratory:

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

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WELL MONITORING DATA SHEET

Project #: 03/209-ZM1	Client: Blakey Env
Sampler: ZM	Date: 12/9/03
Well I.D.: MW-25	Well Diameter: 2 3 ④ 6 8
Total Well Depth (TD):	Depth to Water (DTW): 47.35
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]:	

Purge Method: Bailer Water Peristaltic Extraction Pump Other
 Disposable Bailer
 Positive Air Displacement
 Electric Submersible

Sampling Method: Bailer Disposable Bailer Extraction Port Dedicated Tubing Other:

(Gals.) X Specified Volumes = Calculated Volume
 1 Case Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius ² * 0.163

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations

Did well dewater? Yes No Gallons actually evacuated:

Sampling Date: Sampling Time: Depth to Water:

Sample I.D.: Laboratory:

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

Blaine Tech Services, Inc. 1680 Rogers Ave., San Jose, CA 95112 (408) 573-0555

WELL MONITORING DATA SHEET

Project #: 03/209-ZM1	Client: Blakey Env
Sampler: ZM	Date: 12/9/03
Well I.D.: MW-26	Well Diameter: ② 3 4 6 8
Total Well Depth (TD): 39.75	Depth to Water (DTW): 39.60
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]:	

Purge Method: Bailer Water Peristaltic Extraction Pump Other
 Disposable Bailer
 Positive Air Displacement
 Electric Submersible

Sampling Method: Bailer Disposable Bailer Extraction Port Dedicated Tubing Other

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius ² * 0.163

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
						Insufficient water to sample
						No sample taken

Did well dewater? Yes No Gallons actually evacuated:

Sampling Date: Sampling Time: Depth to Water:

Sample I.D.: Laboratory:

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

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B

Lab Job Number BI-312074

Southland Tech. Services, Inc.
7801 Telegraph Road, Suite L & K
Montebello, CA 90640

Tel: (323) 888-0728
Fax: (323) 888-1509

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client's expense.
Distribution: WHITE with report, PINK to courier.



Southland Technical Services, Inc.
Environmental Laboratories

12-29-2003

Mr. Hiram Garcia
Blakely Environmental Investigations, Inc.
4359 Phelan Road
Phelan, CA 92371

Project: Angeles Chemical Co.
Project Site: 8915 Sorensen Ave., Santa Fe Springs, CA
Sample Date: 12-09-2003
Lab Job No.: BL312074

Dear Mr. Garcia:

Enclosed please find the analytical report for the sample(s) received by STS Environmental Laboratories on 12-09-2003 and analyzed for the following parameters:

- EPA 8015M (Gasoline)
- EPA 8260B (VOCs by GC/MS)
- EPA 160.1 (Total Dissolved Solids)
- EPA 352.1 (Nitrate)
- EPA 325.3 (Chloride)
- EPA 375.4 (Sulfate)
- EPA 376.1 (Sulfide)
- EPA 7380 (Total Iron)
- Ferrous Iron
- EPA 7460 (Manganese)
- EPA 310.1 (Alkalinity)
- Standard Method 4500 (Carbonate & Bicarbonate)
- EPA 415.1 (Total Organic Carbon, Dissolved Organic Carbon)

The sample(s) arrived in good conditions (i.e., chilled, intact) and with a chain of custody record attached.

Chloride, sulfide, Alkalinity, TDS, Carbonate & Bicarbonate analyses were subcontracted to Americhem Testing Laboratory. TOC & DOC analyses were subcontracted to Associated Laboratories. Their original reports are attached.

STS Environmental Laboratory is certified by CA DHS (Certificate Number 1986). Thank you for giving us the opportunity to serve you. Please feel free to call me at (323) 888-0728 if our laboratory can be of further service to you.

Sincerely,

Roger Wang, Ph. D.
Laboratory Director

Enclosures

This cover letter is an integral part of this analytical report.



Southland Technical Services, Inc.
Environmental Laboratories

12-29-2003

Client: Blakely Environmental Investigations, Inc.
Project: Angeles Chemical Co.
Project Site: 8915 Sorensen Ave., Santa Fe Springs, CA
Matrix: Water

Lab Job No.: BL312074
Date Sampled: 12-09-2003
Date Received: 12-09-2003

Analytical Test Results

Analyte	EPA Method	Date Analyzed	Reporting Unit	MW-12	MW-14	MW-15	MW-17	MW-20	Reporting Limit
Nitrate	352.1	12-10-03	mg/L	1.16	20.9	25.2	20.1	21.4	0.01
Sulfate	375.4	12-10-03	mg/L	47	399	287	387	501	1.0
Total Iron	7380	12-10-03	mg/L	3.65	0.14	0.38	0.36	0.24	0.1
Ferrous Iron	Colorimetry	12-10-03	mg/L	0.73	0.21	0.21	0.22	0.14	0.05

ND: Not Detected (at the specified limit).



Southland Technical Services, Inc.

Environmental Laboratories

Client: Blakely Environmental Investigations, Inc.
Project: Angeles Chemical Co.

Lab Job No.: BL312074
Matrix: Water

Date Reported: 12-29-2003
Date Sampled: 12-09-2003

EPA 8260B (VOCs by GC/MS, Page 1 of 2) Reporting Unit: ppb

DATE ANALYZED			12-11	12-11-03	12-11-03	12-11-03	12-11-03		
DILUTION FACTOR				2.5	2.5	2	2.5		
LAB SAMPLE I.D.				BL312074	BL312074	BL312074	BL312074		
CLIENT SAMPLE I.D.				-1	-2	-3	-4		
COMPOUND			MDL	PQL	MB				
Dichlorodifluoromethane	2	5	ND	ND	ND	ND	ND		
Chloromethane	2	5	ND	ND	ND	ND	ND		
Vinyl Chloride	2	2	ND	5.5j	13.1	6.1	134		
Bromomethane	2	5	ND	ND	ND	ND	ND		
Chloroethane	2	5	ND	ND	ND	ND	ND		
Trichlorofluoromethane	2	5	ND	ND	ND	ND	ND		
1,1-Dichloroethene	2	5	ND	700	7.3j	675	234		
Iodomethane	2	5	ND	ND	ND	ND	ND		
Methylene Chloride	2	5	ND	ND	ND	ND	ND		
trans-1,2-Dichloroethene	2	5	ND	ND	ND	ND	ND		
1,1-Dichloroethane	2	5	ND	230	735	219	262		
2,2-Dichloropropane	2	5	ND	ND	ND	ND	ND		
cis-1,2-Dichloroethene	2	5	ND	130	5.1j	113	1,570		
Bromochloromethane	2	5	ND	ND	ND	ND	ND		
Chloroform	2	5	ND	ND	ND	ND	ND		
1,2-Dichloroethane	2	5	ND	11.2j	ND	9.2j	ND		
1,1,1-Trichloroethane	2	5	ND	ND	10.7j	ND	ND		
Carbon tetrachloride	2	5	ND	ND	ND	ND	ND		
1,1-Dichloropropene	2	5	ND	ND	ND	ND	ND		
Benzene	1	1	ND	12.5	9.1	14.6	12.9		
Trichloroethene	2	2	ND	20.3	ND	22.6	9.3		
1,2-Dichloropropane	2	5	ND	ND	ND	ND	ND		
Bromodichloromethane	2	5	ND	ND	ND	ND	ND		
Dibromomethane	2	5	ND	ND	ND	ND	ND		
trans-1,3-Dichloropropene	2	5	ND	ND	ND	ND	ND		
cis-1,3-Dichloropropene	2	5	ND	ND	ND	ND	ND		
1,1,2-Trichloroethane	2	5	ND	ND	ND	ND	ND		
1,3-Dichloropropane	2	5	ND	ND	ND	ND	ND		
Dibromochloromethane	2	5	ND	ND	ND	ND	ND		
2-Chloroethylvinyl ether	2	5	ND	ND	ND	ND	ND		
Bromoform	2	5	ND	ND	ND	ND	ND		
Isopropylbenzene	2	5	ND	ND	42.2	ND	ND		
Bromobenzene	2	5	ND	ND	ND	ND	ND		



Southland Technical Services, Inc.
Environmental Laboratories

Client: Blakely Environmental Investigations, Inc.
Project: Angeles Chemical Co.

Lab Job No.: BL312074
Matrix: Water

Date Reported: 12-29-2003
Date Sampled: 12-09-2003

EPA 8260B (VOCs by GC/MS, Page 2 of 2) Reporting Unit: (ppb)

COMPOUND	MDL	PQL	MB	MW-01	MW-12	MW-14	MW-15		
Toluene	1	1	ND	ND	9.7	ND	3.2		
Tetrachloroethene	2	2	ND	40.2	3.8j	42.4	12.1		
1,2-Dibromoethane(EDB)	2	5	ND	ND	ND	ND	ND		
Chlorobenzene	2	5	ND	ND	5.2j	ND	ND		
1,1,1,2-Tetrachloroethan	2	5	ND	ND	ND	ND	ND		
Ethylbenzene	1	1	ND	ND	157	ND	ND		
Total Xylenes	1	1	ND	ND	157	ND	ND		
Styrene	2	5	ND	ND	ND	ND	ND		
1,1,2,2-Tetrachloroethan	2	5	ND	ND	ND	ND	ND		
1,2,3-Trichloropropane	2	5	ND	ND	ND	ND	ND		
n-Propylbenzene	2	5	ND	ND	123	ND	ND		
2-Chlorotoluene	2	5	ND	ND	ND	ND	ND		
4-Chlorotoluene	2	5	ND	ND	ND	ND	ND		
1,3,5-Trimethylbenzene	2	5	ND	ND	294	ND	ND		
tert-Butylbenzene	2	5	ND	ND	ND	ND	ND		
1,2,4-Trimethylbenzene	2	5	ND	ND	498	ND	ND		
Sec-Butylbenzene	2	5	ND	ND	ND	ND	ND		
1,3-Dichlorobenzene	2	5	ND	ND	ND	ND	ND		
p-Isopropyltoluene	2	5	ND	ND	ND	ND	ND		
1,4-Dichlorobenzene	2	5	ND	ND	ND	ND	ND		
1,2-Dichlorobenzene	2	5	ND	ND	ND	ND	ND		
n-Butylbenzene	2	5	ND	ND	22.3	ND	ND		
1,2,4-Trichlorobenzene	2	5	ND	ND	ND	ND	ND		
1,2-Dibromo-3-Chloropropane	2	5	ND	ND	ND	ND	ND		
Hexachlorobutadiene	2	5	ND	ND	ND	ND	ND		
Naphthalene	2	5	ND	ND	113	ND	ND		
1,2,3-Trichlorobenzene	2	5	ND	ND	ND	ND	ND		
Acetone	5	25	ND	ND	ND	ND	ND		
2-Butanone (MEK)	5	25	ND	ND	ND	ND	ND		
Carbon disulfide	5	25	ND	ND	ND	ND	ND		
4-Methyl-2-pentanone	5	25	ND	ND	ND	ND	ND		
2-Hexanone	5	25	ND	ND	ND	ND	ND		
Vinyl Acetate	5	25	ND	ND	ND	ND	ND		
1,4-Dioxane	50	100	ND	ND	ND	ND	ND		
MTBE	2	2	ND	ND	ND	ND	ND		
ETBE	2	2	ND	ND	ND	ND	ND		
DIPE	2	2	ND	ND	ND	ND	ND		
TAME	2	2	ND	ND	ND	ND	ND		
T-Butyl Alcohol	10	10	ND	ND	ND	ND	ND		

MDL=Method Detection Limit; MB=Method Blank; ND=Not Detected (below DF x MDL), j=trace concentration.



Southland Technical Services, Inc.
Environmental Laboratories

Client: Blakely Environmental Investigations, Inc.
Project: Angeles Chemical Co.

Lab Job No.: BL312074
Matrix: Water

Date Reported: 12-29-2003
Date Sampled: 12-09-2003

EPA 8260B (VOCs by GC/MS, Page 1 of 2) Reporting Unit: ppb

DATE ANALYZED			12-11	12-11-03	12-11-03	12-11-03			
DILUTION FACTOR				1	1	1			
LAB SAMPLE I.D.				BL312074	BL312074	BL312074			
CLIENT SAMPLE I.D.				-5	-6	-7			
				MW-17	MW-20	TB			
COMPOUND	MDL	PQL	MB						
Dichlorodifluoromethane	2	5	ND	ND	ND	ND			
Chloromethane	2	5	ND	ND	ND	ND			
Vinyl Chloride	2	2	ND	ND	ND	ND			
Bromomethane	2	5	ND	ND	ND	ND			
Chloroethane	2	5	ND	ND	ND	ND			
Trichlorofluoromethane	2	5	ND	ND	ND	ND			
1,1-Dichloroethene	2	5	ND	7.8	43.8	ND			
Iodomethane	2	5	ND	ND	ND	ND			
Methylene Chloride	2	5	ND	ND	ND	ND			
trans-1,2-Dichloroethene	2	5	ND	ND	ND	ND			
1,1-Dichloroethane	2	5	ND	ND	123	ND			
2,2-Dichloropropane	2	5	ND	ND	ND	ND			
cis-1,2-Dichloroethene	2	5	ND	ND	26.7	ND			
Bromochloromethane	2	5	ND	ND	ND	ND			
Chloroform	2	5	ND	ND	ND	ND			
1,2-Dichloroethane	2	5	ND	ND	ND	ND			
1,1,1-Trichloroethane	2	5	ND	2.2	81.7	ND			
Carbon tetrachloride	2	5	ND	ND	ND	ND			
1,1-Dichloropropene	2	5	ND	ND	ND	ND			
Benzene	1	1	ND	ND	1.3	ND			
Trichloroethene	2	2	ND	7.3	4.4	ND			
1,2-Dichloropropane	2	5	ND	ND	ND	ND			
Bromodichloromethane	2	5	ND	ND	ND	ND			
Dibromomethane	2	5	ND	ND	ND	ND			
trans-1,3-Dichloropropene	2	5	ND	ND	ND	ND			
cis-1,3-Dichloropropene	2	5	ND	ND	ND	ND			
1,1,2-Trichloroethane	2	5	ND	ND	ND	ND			
1,3-Dichloropropane	2	5	ND	ND	ND	ND			
Dibromochloromethane	2	5	ND	ND	ND	ND			
2-Chloroethylvinyl ether	2	5	ND	ND	ND	ND			
Bromoform	2	5	ND	ND	ND	ND			
Isopropylbenzene	2	5	ND	ND	ND	ND			
Bromobenzene	2	5	ND	ND	ND	ND			



Southland Technical Services, Inc.
Environmental Laboratories

Client: Blakely Environmental Investigations, Inc.
Project: Angeles Chemical Co.

Lab Job No.: BL312074
Matrix: Water

Date Reported: 12-29-2003
Date Sampled: 12-09-2003

EPA 8260B (VOCs by GC/MS, Page 2 of 2) Reporting Unit: (ppb)

COMPOUND	MDL	PQL	MB	MW-17	MW-20	TB			
Toluene	1	1	ND	ND	14.6	ND			
Tetrachloroethene	2	2	ND	18.0	3.4j	ND			
1,2-Dibromoethane(EDB)	2	5	ND	ND	ND	ND			
Chlorobenzene	2	5	ND	ND	ND	ND			
1,1,1,2-Tetrachloroethan	2	5	ND	ND	ND	ND			
Ethylbenzene	1	1	ND	ND	ND	ND			
Total Xylenes	1	1	ND	ND	22.0	ND			
Styrene	2	5	ND	ND	ND	ND			
1,1,2,2-Tetrachloroethan	2	5	ND	ND	ND	ND			
1,2,3-Trichloropropane	2	5	ND	ND	ND	ND			
n-Propylbenzene	2	5	ND	ND	22.9	ND			
2-Chlorotoluene	2	5	ND	ND	ND	ND			
4-Chlorotoluene	2	5	ND	ND	ND	ND			
1,3,5-Trimethylbenzene	2	5	ND	ND	13.8	ND			
tert-Butylbenzene	2	5	ND	ND	ND	ND			
1,2,4-Trimethylbenzene	2	5	ND	ND	33.1	ND			
Sec-Butylbenzene	2	5	ND	ND	ND	ND			
1,3-Dichlorobenzene	2	5	ND	ND	ND	ND			
p-Isopropyltoluene	2	5	ND	ND	ND	ND			
1,4-Dichlorobenzene	2	5	ND	ND	ND	ND			
1,2-Dichlorobenzene	2	5	ND	ND	ND	ND			
n-Butylbenzene	2	5	ND	ND	2.1j	ND			
1,2,4-Trichlorobenzene	2	5	ND	ND	ND	ND			
1,2-Dibromo-3-Chloropropane	2	5	ND	ND	ND	ND			
Hexachlorobutadiene	2	5	ND	ND	ND	ND			
Naphthalene	2	5	ND	ND	ND	ND			
1,2,3-Trichlorobenzene	2	5	ND	ND	ND	ND			
Acetone	5	25	ND	ND	ND	ND			
2-Butanone (MEK)	5	25	ND	ND	ND	ND			
Carbon disulfide	5	25	ND	ND	ND	ND			
4-Methyl-2-pentanone	5	25	ND	ND	ND	ND			
2-Hexanone	5	25	ND	ND	ND	ND			
Vinyl Acetate	5	25	ND	ND	ND	ND			
1,4-Dioxane	50	100	ND	ND	ND	ND			
MTBE	2	2	ND	ND	ND	ND			
ETBE	2	2	ND	ND	ND	ND			
DIPE	2	2	ND	ND	ND	ND			
TAME	2	2	ND	ND	ND	ND			
t-Butyl Alcohol	10	10	ND	ND	ND	ND			

MDL=Method Detection Limit; MB=Method Blank; ND=Not Detected (below DF x MDL), j=trace concentration.



Southland Technical Services, Inc.
Environmental Laboratories

12-29-2003

Client: Blakely Environmental Investigations, Inc. Lab Job No.: BL312074
Project: Angeles Chemical Co.
Project Site: 8915 Sorensen Ave, Santa Fe Springs Date Sampled: 12-09-2003
Matrix: Water Date Received: 12-09-2003
Batch No.: CL10-GW1 Date Analyzed: 12-10-2003

EPA 8015M (Gasoline)
Reporting Units: µg/L (ppb)

Sample ID	Lab ID	Gasoline (C4-C12)	Method Detection Limit	PQL
Method Blank		ND	50	50
MW-1	BL312074-1	609	50	50
MW-12	BL312074-2	5,390	50	50
MW-14	BL312074-3	521	50	50
MW-15	BL312074-4	790	50	50
MW-17	BL312074-5	ND	50	50
MW-20	BL312074-6	1,080	50	50
TB	BL312074-7	ND	50	50

ND: Not Detected (at the specified limit)



Southland Technical Services, Inc.
Environmental Laboratories

12-29-2003

**EPA 8015M (TPH)
Batch QA/QC Report**

Client: Blakely Environmental Investigations, Inc.
Project: Angeles Chemical Co.
Matrix: Water
Batch No.: CL10-GW1

Lab Job No.: BL312074
Lab Sample ID: R312069-1
Date Analyzed: 12-10-2003

**I MS/MSD Report
Unit: ppb**

Analyte	Sample Conc.	Spike Conc.	MS	MSD	MS %Rec.	MSD %Rec.	% RPD	%RPD Accept. Limit	%Rec Accept. Limit
TPH-g	ND	1,000	1,080	1,130	108.0	113.0	4.5	30	70-130

**II LCS Result
Unit: ppb**

Analyte	LCS Report Value	True Value	Rec.%	Accept. Limit
TPH-g	1,070	1,000	107.0	80-120

ND: Not Detected



Southland Technical Services, Inc.
Environmental Laboratories

12-29-2003

EPA 8260B
Batch QA/QC Report

Client: Blakely Environmental Investigations, Inc.
Project: Angeles Chemical Co.
Matrix: Water
Batch No: 1211-VOAW

Lab Job No.: BL312074
Lab Sample ID: R312095-1
Date Analyzed: 12-11-2003

I MS/MSD Report
Unit: ppb

Compound	Sample Conc.	Spike Conc.	MS	MSD	MS %Rec.	MSD %Rec.	% RPD	%RPD Accept. Limit	%Rec Accept. Limit
1,1-Dichloroethene	ND	20	20.7	16.8	103.5	84.0	20.8	30	70-130
Benzene	ND	20	21.0	18.7	105.0	93.5	11.6	30	70-130
Trichloro-ethene	ND	20	19.9	19.4	99.5	97.0	2.5	30	70-130
Toluene	ND	20	19.9	19.3	99.5	96.5	3.1	30	70-130
Chlorobenzene	ND	20	18.6	17.9	93.0	89.5	3.8	30	70-130

II LCS Result
Unit: ppb

Compound	LCS Report Value	True Value	Rec.%	Accept. Limit
1,1-Dichloroethene	16.7	20	83.5	80-120
Benzene	17.6	20	88.0	80-120
Trichloro-ethene	18.2	20	91.0	80-120
Toluene	17.8	20	89.0	80-120
Chlorobenzene	17.4	20	87.0	80-120

ND: Not Detected (at the specified limit)

CHAIN OF CUSTODY RECORD

[illegible]

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client's expense.
Distribution: WHITE with report, PINK to courier.

Tel: (323) 888-0728
Fax: (323) 888-1509

Southland Tech. Services, Inc.
801 Telegraph Road, Suite L & K
Montebello, CA 90640



Southland Technical Services, Inc.
Environmental Laboratories

12-31-2003

Mr. Hiram Garcia
Blakely Environmental Investigations, Inc.
4359 Phelan Road
Phelan, CA 92371

Project: Angeles Chemical Co.
Project Site: 8915 Sorensen Ave., Santa Fe Springs, CA
Sample Date: 12-10-2003
Lab Job No.: BL312084

Dear Mr. Garcia:

Enclosed please find the analytical report for the sample(s) received by STS Environmental Laboratories on 12-10-2003 and analyzed for the following parameters:

EPA 8015M (Gasoline)
EPA 8260B (VOCs by GC/MS)
EPA 160.1 (Total Dissolved Solids)
EPA 352.1 (Nitrate)
EPA 325.3 (Chloride)
EPA 375.4 (Sulfate)
EPA 376.1 (Sulfide)
EPA 7380 (Total Iron)
Ferrous Iron
EPA 7460 (Manganese)
EPA 310.1 (Alkalinity)
Standard Method 4500 (Carbonate & Bicarbonate)
EPA 415.1 (Total Organic Carbon, Dissolved Organic Carbon)

The sample(s) arrived in good conditions (i.e., chilled, intact) and with a chain of custody record attached.

Chloride, sulfide, Alkalinity, TDS, Carbonate & Bicarbonate analyses were subcontracted to Americhem Testing Laboratory. TOC & DOC analyses were subcontracted to Associated Laboratories. Their original reports are attached.

STS Environmental Laboratory is certified by CA DHS (Certificate Number 1986). Thank you for giving us the opportunity to serve you. Please feel free to call me at (323) 888-0728 if our laboratory can be of further service to you.

Sincerely,

Roger Wang, Ph. D.
Laboratory Director

Enclosures

This cover letter is an integral part of this analytical report.



Southland Technical Services, Inc.
Environmental Laboratories

12-31-2003

Client: Blakely Environmental Investigations, Inc.
Project: Angeles Chemical Co.
Project Site: 8915 Sorensen Ave., Santa Fe Springs, CA
Matrix: Water

Lab Job No.: BL312084
Date Sampled: 12-10-2003
Date Received: 12-10-2003

Analytical Test Results

Analyte	EPA Method	Date Analyzed	Reporting Unit	MW-09	MW-10	MW-11	MW-13	MW-18	Reporting Limit
Nitrate	352.1	12-11-03	mg/L	25.5	5.21	3.96	17.4	1.14	0.01
Sulfate	375.4	12-11-03	mg/L	783	19.3	16.0	533	82.9	1.0
Total Iron	7380	12-11-03	mg/L	0.36	31.7	30.6	0.19	63.1	0.1
Ferrous Iron	Colorimetry	12-11-03	mg/L	0.15	1.42	2.32	0.16	1.89	0.05

Analyte	EPA Method	Date Analyzed	Reporting Unit	MW-21					Reporting Limit
Nitrate	352.1	12-11-03	mg/L	22.8					0.01
Sulfate	375.4	12-11-03	mg/L	287					1.0
Total Iron	7380	12-11-03	mg/L	1.20					0.1
Ferrous Iron	Colorimetry	12-11-03	mg/L	0.17					0.05

ND: Not Detected (at the specified limit).

Note: The analyses on this page were subcontracted to Americhem Testing Laboratory, ELAP No. 1758.



Southland Technical Services, Inc.
Environmental Laboratories

Client: Blakely Environmental Investigations, Inc.
Project: Angeles Chemical Co.

Lab Job No.: BL312084
Matrix: Water

Date Reported: 12-31-2003
Date Sampled: 12-10-2003

EPA 8260B (VOCs by GC/MS, Page 1 of 2) Reporting Unit: ppb

DATE ANALYZED			12-12-03	12-12-03	12-12-03	12-12-03	12-12-03		
DILUTION FACTOR				10	1	200	200		
LAB SAMPLE I.D.				BL312084-1	BL312084-2	BL312084-3	BL312084-4		
CLIENT SAMPLE I.D.				MW-02	MW-09	MW-10	MW-11		
COMPOUND	MDL	PQL	MB						
Dichlorodifluoromethane	2	5	ND	ND	ND	ND	ND		
Chloromethane	2	5	ND	ND	ND	ND	ND		
Vinyl Chloride	2	2	ND	38.0 j	5.2	3,700	1,530		
Bromomethane	2	5	ND	ND	ND	ND	ND		
Chloroethane	2	5	ND	ND	ND	626j	1,550		
Trichlorofluoromethane	2	5	ND	ND	ND	ND	ND		
1,1-Dichloroethene	2	5	ND	1,500	43.5	2,750	1,810		
Iodomethane	2	5	ND	ND	ND	ND	ND		
Methylene Chloride	2	5	ND	ND	ND	ND	ND		
trans-1,2-Dichloroethene	2	5	ND	ND	ND	ND	ND		
1,1-Dichloroethane	2	5	ND	2,230	50.0	53,500	49,200		
2,2-Dichloropropane	2	5	ND	ND	ND	ND	ND		
cis-1,2-Dichloroethene	2	5	ND	4,540	21.3	17,200	1,830		
Bromochloromethane	2	5	ND	ND	ND	ND	ND		
Chloroform	2	5	ND	ND	ND	ND	ND		
1,2-Dichloroethane	2	5	ND	ND	ND	ND	ND		
1,1,1-Trichloroethane	2	5	ND	114	ND	7,460	852j		
Carbon tetrachloride	2	5	ND	ND	ND	ND	ND		
1,1-Dichloropropene	2	5	ND	ND	ND	ND	ND		
Benzene	1	1	ND	63.0	2.1	292	768		
Trichloroethene	2	2	ND	133	1.7j	ND	ND		
1,2-Dichloropropane	2	5	ND	ND	ND	ND	ND		
Bromodichloromethane	2	5	ND	ND	ND	ND	ND		
Dibromomethane	2	5	ND	ND	ND	ND	ND		
trans-1,3-Dichloropropene	2	5	ND	ND	ND	ND	ND		
cis-1,3-Dichloropropene	2	5	ND	ND	ND	ND	ND		
1,1,2-Trichloroethane	2	5	ND	ND	ND	ND	ND		
1,3-Dichloropropane	2	5	ND	ND	ND	ND	ND		
Dibromochloromethane	2	5	ND	ND	ND	ND	ND		
2-Chloroethylvinyl ether	2	5	ND	ND	ND	ND	ND		
Bromoform	2	5	ND	ND	ND	ND	ND		
Isopropylbenzene	2	5	ND	ND	ND	ND	ND		
Bromobenzene	2	5	ND	ND	ND	ND	ND		



Southland Technical Services, Inc.
Environmental Laboratories

Client: Blakely Environmental Investigations, Inc.
Project: Angeles Chemical Co.

Lab Job No.: BL312084
Matrix: Water

Date Reported: 12-31-2003
Date Sampled: 12-10-2003

EPA 8260B (VOCs by GC/MS, Page 2 of 2) Reporting Unit: (ppb)

COMPOUND	MDL	PQL	MB	MW-02	MW-09	MW-10	MW-11		
Toluene	1	1	ND	ND	ND	13,300	6,570		
Tetrachloroethene	2	2	ND	126	4.5j	ND	ND		
1,2-Dibromoethane(EDB)	2	5	ND	ND	ND	ND	ND		
Chlorobenzene	2	5	ND	ND	ND	ND	ND		
1,1,1,2-Tetrachloroethan	2	5	ND	ND	ND	ND	ND		
Ethylbenzene	1	1	ND	ND	ND	1,450	1,140		
Total Xylenes	1	1	ND	89.6	ND	4,590	2,020		
Styrene	2	5	ND	ND	ND	ND	ND		
1,1,2,2-Tetrachloroethan	2	5	ND	ND	ND	ND	ND		
1,2,3-Trichloropropane	2	5	ND	ND	ND	ND	ND		
n-Propylbenzene	2	5	ND	ND	ND	ND	ND		
2-Chlorotoluene	2	5	ND	ND	ND	ND	ND		
4-Chlorotoluene	2	5	ND	ND	ND	ND	ND		
1,3,5-Trimethylbenzene	2	5	ND	ND	ND	412j	306j		
tert-Butylbenzene	2	5	ND	ND	ND	ND	ND		
1,2,4-Trimethylbenzene	2	5	ND	ND	ND	1,640	1,582		
Sec-Butylbenzene	2	5	ND	ND	ND	ND	ND		
1,3-Dichlorobenzene	2	5	ND	ND	ND	ND	ND		
p-Isopropyltoluene	2	5	ND	ND	ND	ND	ND		
1,4-Dichlorobenzene	2	5	ND	ND	ND	ND	ND		
1,2-Dichlorobenzene	2	5	ND	ND	ND	ND	ND		
n-Butylbenzene	2	5	ND	ND	ND	ND	ND		
1,2,4-Trichlorobenzene	2	5	ND	ND	ND	ND	ND		
1,2-Dibromo-3-Chloropropane	2	5	ND	ND	ND	ND	ND		
Hexachlorobutadiene	2	5	ND	ND	ND	ND	ND		
Naphthalene	2	5	ND	21.6j	ND	ND	ND		
1,2,3-Trichlorobenzene	2	5	ND	ND	ND	ND	ND		
Acetone	5	25	ND	ND	ND	19,200	2,240j		
2-Butanone (MEK)	5	25	ND	ND	ND	4,080j	ND		
Carbon disulfide	5	25	ND	ND	ND	ND	ND		
4-Methyl-2-pentanone	5	25	ND	ND	ND	3,120j	ND		
2-Hexanone	5	25	ND	ND	ND	ND	ND		
Vinyl Acetate	5	25	ND	ND	ND	ND	ND		
1,4-Dioxane	50	100	ND	ND	ND	ND	ND		
MTBE	2	2	ND	ND	ND	ND	ND		
ETBE	2	2	ND	ND	ND	ND	ND		
DIPE	2	2	ND	ND	ND	ND	ND		
TAME	2	2	ND	ND	ND	ND	ND		
T-Butyl Alcohol	10	10	ND	ND	ND	ND	ND		

MDL=Method Detection Limit; MB=Method Blank; ND=Not Detected (below DF x MDL), j=trace concentration.



Southland Technical Services, Inc.

Environmental Laboratories

Client: Blakely Environmental Investigations, Inc.
Project: Angeles Chemical Co.

Lab Job No.: BL312084
Matrix: Water

Date Reported: 12-31-2003
Date Sampled: 12-10-2003

EPA 8260B (VOCs by GC/MS, Page 1 of 2) Reporting Unit: ppb

DATE ANALYZED			12-12	12-12-03	12-12-03	12-12-03	12-12-03		
DILUTION FACTOR				1	100	20	1		
LAB SAMPLE ID.				BL312084-5	BL312084-6	BL312084-7	BL312084-10		
CLIENT SAMPLE ID.				MW-13	MW-18	MW-21	TB		
COMPOUND	MDL	PQL	MB						
Dichlorodifluoromethane	2	5	ND	ND	ND	ND	ND		
Chloromethane	2	5	ND	ND	ND	ND	ND		
Vinyl Chloride	2	2	ND	ND	ND	47.3	ND		
Bromomethane	2	5	ND	ND	ND	ND	ND		
Chloroethane	2	5	ND	ND	ND	ND	ND		
Trichlorofluoromethane	2	5	ND	4.9j	ND	ND	ND		
1,1-Dichloroethene	2	5	ND	10.8	4,170	1,960	ND		
Iodomethane	2	5	ND	ND	ND	ND	ND		
Methylene Chloride	2	5	ND	ND	ND	ND	ND		
trans-1,2-Dichloroethene	2	5	ND	ND	ND	ND	ND		
1,1-Dichloroethane	2	5	ND	2.3j	5,440	2,300	ND		
2,2-Dichloropropane	2	5	ND	ND	ND	ND	ND		
cis-1,2-Dichloroethene	2	5	ND	10.8	14,500	4,400	ND		
Bromochloromethane	2	5	ND	ND	ND	ND	ND		
Chloroform	2	5	ND	ND	ND	ND	ND		
1,2-Dichloroethane	2	5	ND	ND	ND	ND	ND		
1,1,1-Trichloroethane	2	5	ND	ND	1,130	132	ND		
Carbon tetrachloride	2	5	ND	ND	ND	ND	ND		
1,1-Dichloropropene	2	5	ND	ND	ND	ND	ND		
Benzene	1	1	ND	ND	415	64	ND		
Trichloroethene	2	2	ND	47.0	169j	140	ND		
1,2-Dichloropropane	2	5	ND	ND	ND	ND	ND		
Bromodichloromethane	2	5	ND	ND	ND	ND	ND		
Dibromomethane	2	5	ND	ND	ND	ND	ND		
trans-1,3-Dichloropropene	2	5	ND	ND	ND	ND	ND		
cis-1,3-Dichloropropene	2	5	ND	ND	ND	ND	ND		
1,1,2-Trichloroethane	2	5	ND	ND	ND	ND	ND		
1,3-Dichloropropane	2	5	ND	ND	ND	ND	ND		
Dibromochloromethane	2	5	ND	ND	ND	ND	ND		
2-Chloroethylvinyl ether	2	5	ND	ND	ND	ND	ND		
Bromoform	2	5	ND	ND	ND	ND	ND		
Isopropylbenzene	2	5	ND	ND	ND	19.5j	ND		
Bromobenzene	2	5	ND	ND	ND	ND	ND		



Southland Technical Services, Inc.

Environmental Laboratories

Client: Blakely Environmental Investigations, Inc.
Project: Angeles Chemical Co.

Lab Job No.: BL312084
Matrix: Water

Date Reported: 12-31-2003
Date Sampled: 12-10-2003

EPA 8260B (VOCs by GC/MS, Page 2 of 2) Reporting Unit: (ppb)

COMPOUND	MDL	PQL	MB	MW-13	MW-18	MW-21	TB		
Toluene	1	1	ND	ND	2,350	ND	ND		
Tetrachloroethene	2	2	ND	36.3	ND	133	ND		
1,2-Dibromoethane(EDB)	2	5	ND	ND	ND	ND	ND		
Chlorobenzene	2	5	ND	ND	ND	ND	ND		
1,1,1,2-Tetrachloroethan	2	5	ND	ND	ND	ND	ND		
Ethylbenzene	1	1	ND	ND	690	ND	ND		
Total Xylenes	1	1	ND	ND	2,610	91.9	ND		
Styrene	2	5	ND	ND	ND	ND	ND		
1,1,2,2-Tetrachloroethan	2	5	ND	ND	ND	ND	ND		
1,2,3-Trichloropropane	2	5	ND	ND	ND	ND	ND		
n-Propylbenzene	2	5	ND	ND	230j	ND	ND		
2-Chlorotoluene	2	5	ND	ND	ND	ND	ND		
4-Chlorotoluene	2	5	ND	ND	ND	ND	ND		
1,3,5-Trimethylbenzene	2	5	ND	ND	459j	ND	ND		
tert-Butylbenzene	2	5	ND	ND	ND	ND	ND		
1,2,4-Trimethylbenzene	2	5	ND	ND	1,810	ND	ND		
Sec-Butylbenzene	2	5	ND	ND	ND	ND	ND		
1,3-Dichlorobenzene	2	5	ND	ND	ND	ND	ND		
p-Isopropyltoluene	2	5	ND	ND	ND	ND	ND		
1,4-Dichlorobenzene	2	5	ND	ND	ND	ND	ND		
1,2-Dichlorobenzene	2	5	ND	ND	ND	ND	ND		
n-Butylbenzene	2	5	ND	ND	ND	ND	ND		
1,2,4-Trichlorobenzene	2	5	ND	ND	ND	ND	ND		
1,2-Dibromo-3-Chloropropane	2	5	ND	ND	ND	ND	ND		
Hexachlorobutadiene	2	5	ND	ND	ND	ND	ND		
Naphthalene	2	5	ND	ND	ND	20.0 j	ND		
1,2,3-Trichlorobenzene	2	5	ND	ND	ND	ND	ND		
Acetone	5	25	ND	ND	32,400	ND	ND		
2-Butanone (MEK)	5	25	ND	ND	23,700	ND	ND		
Carbon disulfide	5	25	ND	ND	ND	ND	ND		
4-Methyl-2-pentanone	5	25	ND	ND	1,330j	ND	ND		
2-Hexanone	5	25	ND	ND	ND	ND	ND		
Vinyl Acetate	5	25	ND	ND	ND	ND	ND		
1,4-Dioxane	50	100	ND	ND	ND	ND	ND		
MTBE	2	2	ND	ND	ND	ND	ND		
ETBE	2	2	ND	ND	ND	ND	ND		
DIPE	2	2	ND	ND	ND	ND	ND		
TAME	2	2	ND	ND	ND	ND	ND		
T-Butyl Alcohol	10	10	ND	ND	ND	ND	ND		

MDL=Method Detection Limit; MB=Method Blank; ND=Not Detected (below DF x MDL), j=trace concentration.



Southland Technical Services, Inc.
Environmental Laboratories

12-31-2003

Client: Blakely Environmental Investigations, Inc. Lab Job No.: BL312084
Project: Angeles Chemical Co.
Project Site: 8915 Sorensen Ave, Santa Fe Springs Date Sampled: 12-10-2003
Matrix: Water Date Received: 12-10-2003
Batch No.: CL11-GW1 Date Analyzed: 12-11-2003

EPA 8015M (Gasoline)
Reporting Units: µg/L (ppb)

Sample ID	Lab ID	Gasoline (C4-C12)	Method Detection Limit	PQL
Method Blank		ND	50	50
MW-09	BL312084-2	1,280	50	50
MW-10	BL312084-3	77,200	50	50
MW-11	BL312084-4	51,500	50	50
MW-13	BL312084-5	64	50	50
MW-18	BL312084-6	40,600	50	50
MW-21	BL312084-7	2,140	50	50

ND: Not Detected (at the specified limit)



Southland Technical Services, Inc.
Environmental Laboratories

12-31-2003

Client: Blakely Environmental Investigations, Inc. Lab Job No.: BL312084
Project: Angeles Chemical Co.
Project Site: 8915 Sorensen Ave, Santa Fe Springs Date Sampled: 12-10-2003
Matrix: Product Date Received: 12-10-2003
Batch No.: EL10-DW1 Date Analyzed: 12-10-2003

EPA 8015M (Total Petroleum Hydrocarbons)
Reporting Units: mg/L (ppm)

Sample ID	Lab ID	DF	C4-C12* (Gasoline Range)	C13-C23 (Diesel Range)	C23-C40 (Oil Range)
Method Detection Limit (MDL)			5	5	25
Practical Quantitation Limit			10	10	50
Method Blank		1	ND	ND	ND
MW-16	BL312084-8	500	455,000	101,000	ND
MW-19	BL312084-9	500	425,000	58,700	ND

ND: Not Detected (at the specified limit)



Southland Technical Services, Inc.
Environmental Laboratories

12-31-2003

**EPA 8015M (TPH)
Batch QA/QC Report**

Client: Blakely Environmental Investigations, Inc.
Project: Angeles Chemical Co.
Matrix: Water
Batch No.: EL10-DW1

Lab Job No.: BL312084
Lab Sample ID: ST1210-1
Date Analyzed: 12-10-2003

**I. MS/MSD Report
Unit: ppm**

Analyte	Sample Conc.	Spike Conc.	MS	MSD	MS %Rec.	MSD %Rec.	% RPD	%RPD Accept. Limit	%Rec Accept. Limit
TPH-d	ND	20	17.7	18.0	88.5	90.0	1.7	30	70-130

**II. LCS Result
Unit: ppm**

Analyte	LCS Report Value	True Value	Rec.%	Accept. Limit
TPH-d	17.8	20	89.0	80-120

ND: Not Detected



Southland Technical Services, Inc.
Environmental Laboratories

12-31-2003

**EPA 8015M (TPH)
Batch QA/QC Report**

Client: Blakely Environmental Investigations, Inc. Lab Job No.: BL312084
Project: Angeles Chemical Co.
Matrix: Water Lab Sample ID: R312091-13
Batch No.: CL11-GW1 Date Analyzed: 12-11-2003

I MS/MSD Report
Unit: ppb

Analyte	Sample Conc.	Spike Conc.	MS	MSD	MS %Rec.	MSD %Rec.	% RPD	%RPD Accept. Limit	%Rec Accept. Limit
TPH-g	ND	1000	1,120	1,070	112.0	107.0	4.6	30	70-130

II. LCS Result
Unit: ppb

Analyte	LCS Report Value	True Value	Rec.%	Accept. Limit
TPH-g	1,050	1,000	105.0	80-120

ND: Not Detected



Southland Technical Services, Inc.
Environmental Laboratories

12-31-2003

EPA 8260B
Batch QA/QC Report

Client: Blakely Environmental Investigations, Inc.
Project: Angeles Chemical Co.
Matrix: Water
Batch No.: 1212-VOAW

Lab Job No.: BL312084
Lab Sample ID: BL312084-10
Date Analyzed: 12-12-2003

I MS/MSD Report
Unit: ppb

Compound	Sample Conc.	Spike Conc.	MS	MSD	MS %Rec.	MSD %Rec.	% RPD	%RPD Accept. Limit	%Rec Accept. Limit
1,1-Dichloroethene	ND	20	21.2	19.3	106.0	96.5	9.4	30	70-130
Benzene	ND	20	20.6	19.6	103.0	98.0	5.0	30	70-130
Trichloro-ethene	ND	20	20.9	19.8	104.5	99.0	5.4	30	70-130
Toluene	ND	20	19.7	20.5	98.5	102.5	4.0	30	70-130
Chlorobenzene	ND	20	19.2	18.4	96.0	92.0	4.3	30	70-130

II LCS Result
Unit: ppb

Analyte	LCS Value	True Value	Rec.%	Accept. Limit
1,1-Dichloroethene	21.2	20	106.0	80-120
Benzene	20.3	20	101.5	80-120
Trichloro-ethene	23.5	20	117.5	80-120
Toluene	21.0	20	105.0	80-120
Chlorobenzene	19.3	20	96.5	80-120

ND: Not Detected.

BZ 312109

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client's expense.
Distribution: WHITE with report, PINK to courier.

outhland Tech. Services, Inc.
801 Telegraph Road, Suite L & K
Montebello, CA 90640

Tel: (323) 888-0728
Fax: (323) 888-1509



Southland Technical Services, Inc.
Environmental Laboratories

12-31-2003

Mr. Hiram Garcia
Blakely Environmental Investigations, Inc.
4359 Phelan Road
Phelan, CA 92371

Project: Angeles Chemical Co.
Project Site: 8915 Sorensen Ave, Santa Fe Springs
Sample Date: 12-15-2003
Lab Job No.: BL312109

Dear Mr. Garcia:

Enclosed please find the analytical report for the sample(s) received by STS Environmental Laboratories on 12-15-2003 and analyzed for the following parameters:

EPA 8260B (VOCs by GC/MS)

All analyses have met the QA/QC criteria of this laboratory.

The sample(s) arrived in good conditions (i.e., chilled, intact) and with a chain of custody record attached.

STS Environmental Laboratory is certified by CA DHS (Certificate Number 1986). Thank you for giving us the opportunity to serve you. Please feel free to call me at (323) 888-0728 if our laboratory can be of further service to you.

Sincerely,

Roger Wang, Ph. D.
Laboratory Director

Enclosures

This cover letter is an integral part of this analytical report.



Southland Technical Services, Inc.

Environmental Laboratories

Client: Blakely Environmental Investigations, Inc.
Project: Angeles Chemical Co.

Lab Job No.: BL312109
Matrix: Water

Date Reported: 12-31-2003
Date Sampled: 12-15-2003

EPA 8260B (VOCs by GC/MS, Page 1 of 2) Reporting Unit: ppb

DATE ANALYZED				12-17	12-17-03	12-17-03	12-17-03	12-17-03	12-17-03	12-17-03
DILUTION FACTOR					1	1	1	1	1	1
LAB SAMPLE I.D.					BL312109 -1	BL312109 -2	BL312109 -3	BL312109 -4	BL312109 -5	BL312109 -6
CLIENT SAMPLE I.D.					MW-23 Top	MW-23 Bottom	MW-24 Top	MW-24 Bottom	MW-25 Top	MW-25 Bottom
COMPOUND	MDL	PQL	MB							
Dichlorodifluoromethane	2	5	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	2	5	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	2	2	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	2	5	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	2	5	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	2	5	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	2	5	ND	6.1	6.0	ND	14.6	6.2	7.4	
Iodomethane	2	5	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	2	5	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	2	5	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	2	5	ND	ND	ND	ND	ND	ND	ND	ND
2,2-Dichloropropane	2	5	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	2	5	ND	ND	2.4J	5.7	8.8	ND	3.4J	
Bromochloromethane	2	5	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	2	5	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	2	5	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	2	5	ND	2.6J	3.2	ND	2.3J	ND	ND	ND
Carbon tetrachloride	2	5	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloropropene	2	5	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1	1	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	2	2	ND	7.9	11.3	49.3	51.4	39.4	38.5	
1,2-Dichloropropane	2	5	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	2	5	ND	ND	ND	ND	ND	ND	ND	ND
Dibromomethane	2	5	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	2	5	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	2	5	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	2	5	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichloropropane	2	5	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	2	5	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloroethylvinyl ether	2	5	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	2	5	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	2	5	ND	ND	ND	ND	ND	ND	ND	ND
Bromobenzene	2	5	ND	ND	ND	ND	ND	ND	ND	ND



Southland Technical Services, Inc.

Environmental Laboratories

Client: Blakely Environmental Investigations, Inc.
Project: Angeles Chemical Co.

Lab Job No.: BL312109
Matrix: Water

Date Reported: 12-31-2003
Date Sampled: 12-15-2003

EPA 8260B (VOCs by GC/MS, Page 2 of 2) Reporting Unit: (ppb)

COMPOUND	MDL	PQL	MB	MW-23 Top	MW-23 Bottom	MW-24 Top	MW-24 Bottom	MW-25 Top	MW-25 Bottom
Toluene	1	1	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	2	2	ND	14.8	30.6	24.3	75.4	37.2	37.1
1,2-Dibromoethane(EDB)	2	5	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	2	5	ND	ND	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethan	2	5	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	1	1	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	1	1	ND	ND	ND	ND	ND	ND	ND
Styrene	2	5	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethan	2	5	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	2	5	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	2	5	ND	ND	ND	ND	ND	ND	ND
2-Chlorotoluene	2	5	ND	ND	ND	ND	ND	ND	ND
4-Chlorotoluene	2	5	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	2	5	ND	ND	ND	ND	ND	ND	ND
tert-Butylbenzene	2	5	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	2	5	ND	ND	ND	ND	ND	ND	ND
Sec-Butylbenzene	2	5	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	2	5	ND	ND	ND	ND	ND	ND	ND
p-Isopropyltoluene	2	5	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	2	5	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	2	5	ND	ND	ND	ND	ND	ND	ND
n-Butylbenzene	2	5	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	2	5	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-Chloropropane	2	5	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	2	5	ND	ND	ND	ND	ND	ND	ND
Naphthalene	2	5	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichlorobenzene	2	5	ND	ND	ND	ND	ND	ND	ND
Acetone	25	25	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	25	25	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	25	25	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	25	25	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	25	25	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate	25	25	ND	ND	ND	ND	ND	ND	ND
1,4-Dioxane	50	100	ND	ND	ND	ND	ND	ND	ND
MTBE	2	2	ND	ND	ND	ND	ND	ND	ND
ETBE	2	2	ND	ND	ND	ND	ND	ND	ND
DIPE	2	2	ND	ND	ND	ND	ND	ND	ND
TAME	2	2	ND	ND	ND	ND	ND	ND	ND
T-Butyl Alcohol	10	10	ND	ND	ND	ND	ND	ND	ND

MDL=Method Detection Limit; MB=Method Blank; ND=Not Detected (below DF x MDL).]=trace concentration



Southland Technical Services, Inc.
Environmental Laboratories

12-31-2003

**EPA 8260B
Batch QA/QC Report**

Client: Blakely Environmental Investigations, Inc.
Project: Angeles Chemical Co.
Matrix: Water
Batch No: 1217-VOAW

Lab Job No.: BL312109
Lab Sample ID: Q312133-3
Date Analyzed: 12-17-2003

**I MS/MSD Report
Unit: ppb**

Compound	Sample Conc.	Spike Conc.	MS	MSD	MS %Rec.	MSD %Rec.	% RPD	%RPD Accept. Limit	%Rec Accept. Limit
1,1-Dichloroethene	ND	20	20.7	23.8	103.5	119.0	13.9	30	70-130
Benzene	ND	20	21.1	22.9	105.5	114.5	8.2	30	70-130
Trichloro-ethene	ND	20	20.3	25.1	101.5	125.5	21.1	30	70-130
Toluene	ND	20	19.7	23.3	98.5	116.5	16.7	30	70-130
Chlorobenzene	ND	20	20.7	20.9	103.5	104.5	1.0	30	70-130

**II LCS Result
Unit: ppb**

Compound	LCS Report Value	True Value	Rec.%	Accept. Limit
1,1-Dichloroethene	17.2	20	86.0	80-120
Benzene	19.7	20	98.5	80-120
Trichloro-ethene	18.9	20	94.5	80-120
Toluene	18.5	20	92.5	80-120
Chlorobenzene	19.5	20	97.5	80-120

ND: Not Detected

CHAIN OF CUSTODY RECORD

Lab Job Number

Client: Southland Technical Services, Inc.				Analyses Requested:				T.A.T. Requested	
Address: 7801 Telegraph Rd. #L, Montebello, CA 90640				8015M (Gasoline)				<input type="checkbox"/> Rush 8 12 24 hours <input type="checkbox"/> 2-3 days <input checked="" type="checkbox"/> Normal	
Report Allocation: Phone 323-888-0728 Fax 323-888-1509 Sampled by				8015M (Diesel)				Sample Condition	
Project Name/No. BL312074, BL312084 Angeles Chemical Company,				8260B (VOCs)				<input type="checkbox"/> Chilled <input type="checkbox"/> Intact <input type="checkbox"/> Sample seals	
Client Sample ID	Lab Sample ID	Sample Collect		Matrix Type	Sample Preserve	No. Type & size of container	8260B (Oxygenics, BTEX)		Remarks
		Date	Time				8260B (MTBE Confirm.)		
MW-12	BL312074-2	12/4/03		H ₂ O			X	Chloride, Sulfide	X
-14	-3								X
-15	-4								X
-17	-5								X
-20	-6								X
MW-9	BL312084-2	12/4/03		H ₂ O			X	Chloride, Sulfide	X
-10	-3								X
-11	-4								X
-13	-5								X
-18	-6								X
-21	-7								X
Relinquished by: [Signature]				Company: STS		Time: 12/4/03		Company: 12/4/03	
Relinquished by: [Signature]				Company:		Time:		Company: 253/017	

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client's expense. Distribution: WHITE with report, PINK to courier.

Southland Tech. Services, Inc.
 7801 Telegraph Road, Suite L & K
 Montebello, CA 90640
 Tel: (323) 888-0728
 Fax: (323) 888-1509



AmeriChem
Testing
Laboratory

1761 N. Batavia St.
Orange, CA 92865

(714) 921-1550
FAX: (714) 921-4770

Analytical Report

REPORT NUMBER: AL-5193-2

CLIENT:

STS Environmental Lab.
7801 Telegraph Rd. suite J
Montebello, CA 90640

REPORT ON:

Water sample-BL312074-2
MW-12, 12/09/03

DATE RECEIVED: 12/12/03

DATE REPORTED: 12/16/03

ANALYSIS	TEST RESULT mg/l	DET. LIMIT mg/l	METHOD EPA
Chloride	74.4	0.1	325.3
Sulfide, dissolved	ND	0.05	376.1
TDS	730	5.0	160.1
Manganese	1.47	0.05	243.2
Carbonate	ND	2.0	Standard Method 4500
Bicarbonate	204	2.0	Standard Method 4500
Total Alkalinity	340	1.0	310.1

TDS= Total dissolved solids

Peter T. Wu
Lab Director



**AmeriChem
Testing
Laboratory**

1761 N. Batavia St.
Orange, CA 92865

(714) 921-1550
FAX: (714) 921-4770

Analytical Report

REPORT NUMBER: AL-5193-3

CLIENT:

**STS Environmental Lab.
7801 Telegraph Rd. suite J
Montebello, CA 90640**

REPORT ON:

**Water sample-BL312074-3
MW-14, 12/09/03**

DATE RECEIVED: 12/12/03

DATE REPORTED: 12/16/03

ANALYSIS	TEST RESULT mg/l	DET. LIMIT mg/l	METHOD EPA
Chloride	160	0.1	325.3
Sulfide, dissolved	ND	0.05	376.1
TDS	1,140	5.0	160.1
Manganese	1.02	0.05	243.2
Carbonate	ND	2.0	Standard Method 4500
Bicarbonate	210	2.0	Standard Method 4500
Total Alkalinity	350	1.0	310.1

TDS= Total dissolved solids

Peter T. Wu
Lab Director



**AmeriChem
Testing
Laboratory**

1761 N. Batavia St.
Orange, CA 92865

(714) 921-1550
FAX: (714) 921-4770

Analytical Report

REPORT NUMBER: AL-5193-4

CLIENT:

**STS Environmental Lab.
7801 Telegraph Rd. suite J
Montebello, CA 90640**

REPORT ON:

**Water sample-BL312074-4
MW-15, 12/09/03**

DATE RECEIVED: 12/12/03

DATE REPORTED: 12/16/03

ANALYSIS	TEST RESULT mg/l	DET. LIMIT mg/l	METHOD EPA
Chloride	113	0.1	325.3
Sulfide, dissolved	ND	0.05	376.1
TDS	1,260	5.0	160.1
Manganese	1.14	0.05	243.2
Carbonate	ND	2.0	Standard Method 4500
Bicarbonate	279	2.0	Standard Method 4500
Total Alkalinity	465	1.0	310.1

TDS= Total dissolved solids

Peter T. Wu
Lab Director



**AmeriChem
Testing
Laboratory**

1761 N. Batavia St.
Orange, CA 92865

(714) 921-1550
FAX: (714) 921-4770

Analytical Report

REPORT NUMBER: AL-5193-5

CLIENT:

STS Environmental Lab.
7801 Telegraph Rd. suite J
Montebello, CA 90640

REPORT ON:

Water sample-BL312074-5
MW-17, 12/09/03

DATE RECEIVED: 12/12/03

DATE REPORTED: 12/16/03

ANALYSIS	TEST RESULT mg/l	DET. LIMIT mg/l	METHOD EPA
Chloride	106	0.1	325.3
Sulfide, dissolved	ND	0.05	376.1
TDS	1,170	5.0	160.1
Manganese	0.23	0.05	243.2
Carbonate	ND	2.0	Standard Method 4500
Bicarbonate	258	2.0	Standard Method 4500
Total Alkalinity	430	1.0	310.1

TDS= Total dissolved solids

Peter T. Wu
Lab Director



**AmeriChem
Testing
Laboratory**

1761 N. Batavia St.
Orange, CA 92865

(714) 921-1550
FAX: (714) 921-4770

Analytical Report

REPORT NUMBER: AL-5193-6

CLIENT:

**STS Environmental Lab.
7801 Telegraph Rd. suite J
Montebello, CA 90640**

REPORT ON:

**Water sample-BL312074-6
MW-20, 12/09/03**

DATE RECEIVED: 12/12/03

DATE REPORTED: 12/16/03

ANALYSIS	TEST RESULT mg/l	DET. LIMIT mg/l	METHOD EPA
Chloride	99.3	0.1	325.3
Sulfide, dissolved	ND	0.05	376.1
TDS	1,200	5.0	160.1
Manganese	0.12	0.05	243.2
Carbonate	ND	2.0	Standard Method 4500
Bicarbonate	287	2.0	Standard Method 4500
Total Alkalinity	479	1.0	310.1

TDS= Total dissolved solids

Peter T. Wu
Lab Director



**AmeriChem
Testing
Laboratory**

1761 N. Batavia St.
Orange, CA 92865

(714) 921-1550
FAX: (714) 921-4770

Analytical Report

REPORT NUMBER: AL-5193-7

CLIENT:

STS Environmental Lab.
7801 Telegraph Rd. suite J
Montebello, CA 90640

REPORT ON:

Water sample-BL312084-2
MW-9, 12/10/03

DATE RECEIVED: 12/12/03

DATE REPORTED: 12/16/03

ANALYSIS	TEST RESULT mg/l	DET. LIMIT mg/l	METHOD EPA
Chloride	238	0.1	325.3
Sulfide, dissolved	ND	0.05	376.1
TDS	1,250	5.0	160.1
Manganese	0.15	0.05	243.2
Carbonate	ND	2.0	Standard Method 4500
Bicarbonate	324	2.0	Standard Method 4500
Total Alkalinity	540	1.0	310.1

TDS= Total dissolved solids

Peter T. Wu
Lab Director



**AmeriChem
Testing
Laboratory**

1761 N. Batavia St.
Orange, CA 92865

(714) 921-1550
FAX: (714) 921-4770

Analytical Report

REPORT NUMBER: AL-5193-8

CLIENT:

**STS Environmental Lab.
7801 Telegraph Rd. suite J
Montebello, CA 90640**

REPORT ON:

**Water sample-BL312084-3
MW-10, 12/10/03**

DATE RECEIVED: 12/12/03

DATE REPORTED: 12/16/03

ANALYSIS	TEST RESULT mg/l	DET. LIMIT mg/l	METHOD EPA
Chloride	362	0.1	325.3
Sulfide, dissolved	ND	0.05	376.1
TDS	1,540	5.0	160.1
Manganese	6.10	0.05	243.2
Carbonate	ND	2.0	Standard Method 4500
Bicarbonate	533	2.0	Standard Method 4500
Total Alkalinity	889	1.0	310.1

TDS= Total dissolved solids

Peter T. Wu
Lab Director



**AmeriChem
Testing
Laboratory**

1761 N. Batavia St.
Orange, CA 92865

(714) 921-1550
FAX: (714) 921-4770

Analytical Report

REPORT NUMBER: AL-5193-9

CLIENT:

STS Environmental Lab.

7801 Telegraph Rd. suite J

Montebello, CA 90640

REPORT ON:

Water sample-BL312084-4

MW-11, 12/10/03

DATE RECEIVED: 12/12/03

DATE REPORTED: 12/16/03

ANALYSIS	TEST RESULT mg/l	DET. LIMIT mg/l	METHOD EPA
Chloride	344	0.1	325.3
Sulfide, dissolved	ND	0.05	376.1
TDS	1,690	5.0	160.1
Manganese	13.5	0.05	243.2
Carbonate	ND	2.0	Standard Method 4500
Bicarbonate	547	2.0	Standard Method 4500
Total Alkalinity	912	1.0	310.1

TDS= Total dissolved solids

Peter T. Wu
Lab Director



**AmeriChem
Testing
Laboratory**

1761 N. Batavia St.
Orange, CA 92865

(714) 921-1550
FAX: (714) 921-4770

Analytical Report

REPORT NUMBER: AL-5193-10

CLIENT:

**STS Environmental Lab.
7801 Telegraph Rd. suite J
Montebello, CA 90640**

REPORT ON:

**Water sample-BL312084-5
MW-13, 12/10/03**

DATE RECEIVED: 12/12/03

DATE REPORTED: 12/16/03

ANALYSIS	TEST RESULT mg/l	DET. LIMIT mg/l	METHOD EPA
Chloride	106	0.1	325.3
Sulfide, dissolved	ND	0.05	376.1
TDS	1,160	5.0	160.1
Manganese	0.22	0.05	243.2
Carbonate	ND	2.0	Standard Method 4500
Bicarbonate	261	2.0	Standard Method 4500
Total Alkalinity	435	1.0	310.1

TDS= Total dissolved solids

Peter T. Wu
Lab Director



**AmeriChem
Testing
Laboratory**

1761 N. Batavia St.
Orange, CA 92865

(714) 921-1550
FAX: (714) 921-4770

Analytical Report

REPORT NUMBER: AL-5193-11

CLIENT:

**STS Environmental Lab.
7801 Telegraph Rd. suite J
Montebello, CA 90640**

REPORT ON:

**Water sample-BL312084-6
MW-18, 12/10/03**

DATE RECEIVED: 12/12/03

DATE REPORTED: 12/16/03

ANALYSIS	TEST RESULT mg/l	DET. LIMIT mg/l	METHOD EPA
Chloride	99.3	0.1	325.3
Sulfide, dissolved	ND	0.05	376.1
TDS	1,520	5.0	160.1
Manganese	6.94	0.05	243.2
Carbonate	ND	2.0	Standard Method 4500
Bicarbonate	552	2.0	Standard Method 4500
Total Alkalinity	920	1.0	310.1

TDS= Total dissolved solids

Peter T. Wu
Lab Director



**AmeriChem
Testing
Laboratory**

1761 N. Batavia St.
Orange, CA 92865

(714) 921-1550
FAX: (714) 921-4770

Analytical Report

REPORT NUMBER: AL-5193-12

CLIENT:

**STS Environmental Lab.
7801 Telegraph Rd. suite J
Montebello, CA 90640**

REPORT ON:

**Water sample-BL312084-7
MW-21, 12/10/03**

DATE RECEIVED: 12/12/03

DATE REPORTED: 12/16/03

ANALYSIS	TEST RESULT mg/l	DET. LIMIT mg/l	METHOD EPA
Chloride	135	0.1	325.3
Sulfide, dissolved	ND	0.05	376.1
TDS	1,110	5.0	160.1
Manganese	1.96	0.05	243.2
Carbonate	ND	2.0	Standard Method 4500
Bicarbonate	318	2.0	Standard Method 4500
Total Alkalinity	530	1.0	310.1

TDS= Total dissolved solids

Peter T. Wu
Lab Director



ASSOCIATED LABORATORIES

806 N. Batavia • Orange, CA 92868
(714) 771-6900 • Fax: (714) 538-1209

121404

CHAIN OF CUSTODY RECORD

Date 12/12/03 Page 1 of 1

CLIENT <u>Southland Technical Services Inc.</u>				PROJECT MANAGER <u>Roger Wancy</u>				Samples Intact Yes <input type="checkbox"/> No <input type="checkbox"/>			
ADDRESS <u>7801 Telegraph Rd #6</u>				PHONE NUMBER <u>723 888 0728</u>				County Seals Intact Yes <input type="checkbox"/> No <input type="checkbox"/>			
<u>Mortehulla, CA 90644</u>				SAMPLERS: (Signature) _____				Sample Ambient <input type="checkbox"/> Cooled <input type="checkbox"/> Frozen <input type="checkbox"/>			
PROJECT NAME (Avg. Chem) <u>BL312074, BL312084</u>								Same Day <input type="checkbox"/> 24 Hr. <input type="checkbox"/>			
								Regular <input type="checkbox"/> 48 Hr. <input type="checkbox"/>			

SAMPLE NUMBER	LOCATION DESCRIPTION	DATE	TIME	SAMPLE TYPE			NO OF CNTNRS	SUSP. CONTAM.	TESTS REQUIRED
				WATER	AIR	SOLID			
BL312074-2	MW-12 (D) 1.0	12/9/03	12:11	✓					Total & Dissolved Org. Carbon <u>TOC</u>
-3	MW-14 (D) 2.8	"	14:45	✓					TOC, DOC
-4	MW-15 (D) 2.0	"	13:35	✓					TOC, DOC
-5	MW-17 (D) 0.3	"	11:51	✓					" "
-6	MW-20 (D) 1.9	"	12:22	✓					" "
BL312084-2	MW-9 (D)	12/10/03							TOC, DOC
-3	-10 (D) 604 OF 15	"							
-4	-11 (D) 120 OF 5	"							
-5	-13 (D)	"							
-6	-18 (D) 208	"							
-7	-21 (D)	"							

Relinquished by: (Signature) <u>[Signature]</u>	Received by: (Signature) <u>[Signature]</u>	Date/Time <u>12/12/03 14:22</u>	I hereby authorize the performance of the above indicated work. <u>[Signature]</u>
Relinquished by: (Signature)	Received by Laboratory for analysis: (Signature) <u>2 12-150 10:20</u>	Date/Time	
Special Instructions:			

DISTRIBUTION: White with report. Yellow to AL, Pink to Courier

**ASSOCIATED LABORATORIES**

806 North Batavia - Orange, California 92868 - 714/771-6900

FAX 714/538-1209

CLIENT Southland Technical Services (6304)
ATTN: Roger Wang
7801 Telegraph Rd. - Suite L
Montebello, CA 90640

LAB REQUEST 121404

REPORTED 12/22/2003

RECEIVED 12/12/2003

PROJECT (Ang. Chem) BL312074, BL312084

SUBMITTER Client

COMMENTS

This laboratory request covers the following listed samples which were analyzed for the parameters indicated on the attached Analytical Result Report. All analyses were conducted using the appropriate methods as indicated on the report. This cover letter is an integral part of the final report.

<u>Order No.</u>	<u>Client Sample Identification</u>
484434	BL312074-2
484435	BL312074-3
484436	BL312074-4
484437	BL312074-5
484438	BL312074-6
484439	BL312084-2
484440	BL312084-3
484441	BL312084-4
484442	BL312084-5
484443	BL312084-6
484444	BL312084-7
484445	Laboratory Method Blank

Thank you for the opportunity to be of service to your company. Please feel free to call if there are any questions regarding this report or if we can be of further service.

ASSOCIATED LABORATORIES by,


Edward S. Behare, Ph.D.
Vice President

NOTE: Unless notified in writing, all samples will be discarded by appropriate disposal protocol 30 days from date reported.

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TESTING & CONSULTING
Chemical
Microbiological
Environmental

Order #: 484434

Client Sample ID: BL312074-2

Matrix: WATER

Date Sampled: 12/09/2003

Analyte

Result

DLR

Units

Date/Analyst

9060 Total Organic Carbon (TOC)

Dissolved Organic Carbon	3.0	0.5	mg/L	12/18/03	QP
Total Organic Carbon	3.7	0.5	mg/L	12/18/03	QP

Order #: 484435

Client Sample ID: BL312074-3

Matrix: WATER

Date Sampled: 12/09/2003

Analyte

Result

DLR

Units

Date/Analyst

9060 Total Organic Carbon (TOC)

Dissolved Organic Carbon	2.9	0.5	mg/L	12/18/03	QP
Total Organic Carbon	3.1	0.5	mg/L	12/18/03	QP

Order #: 484436

Client Sample ID: BL312074-4

Matrix: WATER

Date Sampled: 12/09/2003

Analyte

Result

DLR

Units

Date/Analyst

9060 Total Organic Carbon (TOC)

Dissolved Organic Carbon	2.4	0.5	mg/L	12/18/03	QP
Total Organic Carbon	2.6	0.5	mg/L	12/18/03	QP

Order #: 484437

Client Sample ID: BL312074-5

Matrix: WATER

Date Sampled: 12/09/2003

Analyte

Result

DLR

Units

Date/Analyst

9060 Total Organic Carbon (TOC)

Dissolved Organic Carbon	0.9	0.5	mg/L	12/18/03	QP
Total Organic Carbon	1.2	0.5	mg/L	12/18/03	QP

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit

ASSOCIATED LABORATORIES

Analytical Results Report

Lab Request 121404 results page 1 of 4



Order #: 484438

Client Sample ID: BL312074-6

Matrix: WATER

Date Sampled: 12/09/2003

Analyte

Result

DLR

Units

Date/Analyst

9060 Total Organic Carbon (TOC)

Dissolved Organic Carbon	2.2	0.5	mg/L	12/18/03	QP
Total Organic Carbon	2.6	0.5	mg/L	12/18/03	QP

Order #: 484439

Client Sample ID: BL312084-2

Matrix: WATER

Date Sampled: 12/10/2003

Analyte

Result

DLR

Units

Date/Analyst

9060 Total Organic Carbon (TOC)

Dissolved Organic Carbon	12	0.5	mg/L	12/18/03	QP
Total Organic Carbon	13	0.5	mg/L	12/18/03	QP

Order #: 484440

Client Sample ID: BL312084-3

Matrix: WATER

Date Sampled: 12/10/2003

Analyte

Result

DLR

Units

Date/Analyst

9060 Total Organic Carbon (TOC)

Dissolved Organic Carbon	195	5.0	mg/L	12/18/03	QP
Total Organic Carbon	225	5.0	mg/L	12/18/03	QP

Order #: 484441

Client Sample ID: BL312084-4

Matrix: WATER

Date Sampled: 12/10/2003

Analyte

Result

DLR

Units

Date/Analyst

9060 Total Organic Carbon (TOC)

Dissolved Organic Carbon	100	2.5	mg/L	12/18/03	QP
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DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit.

ASSOCIATED LABORATORIES

Analytical Results Report

Lab Request 121404 results, page 2 of 4



Total Organic Carbon

105

2.5 mg/L

12/18/03 QP

Order #: 484442

Client Sample ID: BL312084-5

Matrix: WATER

Date Sampled: 12/10/2003

Analyte

Result

DLR

Units

Date/Analyst

9060 Total Organic Carbon (TOC)

Dissolved Organic Carbon	1.6	0.5	mg/L	12/18/03	QP
Total Organic Carbon	1.9	0.5	mg/L	12/18/03	QP

Order #: 484443

Client Sample ID: BL312084-6

Matrix: WATER

Date Sampled: 12/10/2003

Analyte

Result

DLR

Units

Date/Analyst

9060 Total Organic Carbon (TOC)

Dissolved Organic Carbon	100	2.5	mg/L	12/18/03	QP
Total Organic Carbon	110	2.5	mg/L	12/18/03	QP

Order #: 484444

Client Sample ID: BL312084-7

Matrix: WATER

Date Sampled: 12/10/2003

Analyte

Result

DLR

Units

Date/Analyst

9060 Total Organic Carbon (TOC)

Dissolved Organic Carbon	3.4	0.5	mg/L	12/18/03	QP
Total Organic Carbon	3.7	0.5	mg/L	12/18/03	QP

Order #: 484445

Client Sample ID: Laboratory Method Blank

Matrix: WATER

Analyte

Result

DLR

Units

Date/Analyst

9060 Total Organic Carbon (TOC)

Dissolved Organic Carbon	ND	0.5	mg/L	12/18/03	QP
--------------------------	----	-----	------	----------	----

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit



Total Organic Carbon

ND

0.5 mg/L

12/18/03 QP

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit

ASSOCIATED LABORATORIES Analytical Results Report

Lsh Request 171414 results page 4 of 4



ASSOCIATED LABORATORIES QA REPORT FORM

QC Sample: LR 121404-1

Matrix: WATER

Prep. Date: 12/18/03

Analysis Date: 12/18/03

ID#'s in Batch: LR 121404

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RESULT

Reporting Units = mg/L

Test	Method	Sample Result	Spike Added	Matrix Spike	Matrix Spike Dup	%Rec MS	%Rec MSD	RPD
TOC	415.1 / 9060	3.7	10	13.5	13.6	98	99	1

ND = "U" - Not Detected

RPD = Relative Percent Difference of Matrix Spike and Matrix Spike Duplicate

%REC-MS & MSD = Percent Recovery of Matrix Spike & Matrix Spike Duplicate

%REC LIMITS = 80 - 120

RPD LIMITS = 20

PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

PREP BLK LCS					
Value	Result	True	%Rec	L.Limit	H.Limit
ND	9.6	10	96	80%	120%

Value = Preparation Blank Value; ND = Not-Detected

LCS Result = Lab Control Sample Result

True = True Value of LCS

L.Limit / H.Limit = LCS Control Limits